AMERICAN

VETERINARY REVIEW

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VOLUME XLI.

NEW YORK:
PUBLISHED BY AMERICAN VETERINARY REVIEW,
509 WEST 152d STREET.

24

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Am 359
.41

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AUG 4 1914

AMERICAN VETERINARY REVIEW.

APRIL, 1912.

EDITORIAL.

EUROPEAN CHRONICLE.

PARIS, February 15, 1912.

COMPARATIVE PATHOLOGY—ITS IMPORTANCE.—Those who follow the progress that is being made in medical sciences have already long ago realized the fact that in our days pathology can no longer be a separate and divided part of medical education, and that all the various pathologies pertain to one essential, mothers of the others, viz.: *Comparative Pathology*. Indeed, we have to-day societies of that name; we have journals; there is going to be an International Congress of Comparative Pathology, and, besides that, we have seen a chair of professor of experimental and comparative pathology created in several of the faculties of medicine, human as well as veterinary.

At the opening of the course of lectures to be given at the Faculty of Medecine, in Paris, the eminent, learned holder of the chair, Professor Dr. H. Roger, has delivered a masterly lecture, from which I am pleased to make some extracts from the record published in the *Revue de Pathologie Comparée:*

* * * "This year I shall limit my remarks to our actual knowledge of the diseases common to men and animals, principally on those which can be transmitted between them in the ordinary conditions of life.

"First, we shall study the infectious diseases. And among them one which is of the most important, and will require our close and long attention—*tuberculosis.*

"This disease attacks most of the animal species, mammalia, birds, and even fishes and reptiles. And a first question is, 'Is the pathogenous agent found in the lesions of these animals the same one which is found in man?'

"Indeed, the various tuberculous bacilli cannot be entirely assimilated. There exist some peculiarities of culture, of aspect, and pathogenous properties which allow of the description of several varieties or species.

"Leaving aside the bacilli found in fishes, batracians and reptiles, whose study is not yet sufficiently advanced, we can admit three principal types—the human, the bovine and the aviary. And whether one attaches great importance to the differential characters, or is more or less impressed by the similarities and differences, or, again, grants value to the persistence or variability of the characters observed, these three bacilli are considered as belonging to distinct species or as belonging to simple varieties of one. It is the problem always discussed, even to-day, of the unity or plurality of tuberculosis, a problem equally interesting in theory and in practice. And, naturally, the question will be, What dangers can man run by the ingestion of the meat or milk coming from diseased animals? The recent works upon the intestinal origin of pulmonary tuberculosis brings a new spark of actuality to that question. Behring has stated that the milk of contaminated cows was the principal cause of infection with children. That opinion has been strongly discussed; it deserves long and minutious attention. We will give it in the course of our lectures. But for the present you will appreciate how *it is interesting for physicians to be well acquainted with the characters of bovine tuberculosis and with the peculiarities of its bacillus.*

* * *

"Animals that live in promiscuity with man frequently contract tuberculosis, and may transmit it. By opposition to the

belief of times gone by, the dog is often suffering with it. It may localize itself in the kidney, giving rise to lesions of softening and throwing in the urine considerable quantities of bacilli. Again, see the danger of the propagation, which is so much greater that canine tuberculosis is easily overlooked. It is often manifested by productions of neoplastic appearance, which resemble more those of cancer than of tuberculosis.

"These home pet animals are yet more dangerous. Those among you who have been in my laboratory have seen a parrot, now dead, which had cutaneous tuberculosis. As is commonly the case, this bird had been infected by her owner, who had advanced tuberculosis, and the bacilli of human origin had invaded the skin of the head of the bird and promoted the growth of warty lesions. In cases of this kind the animal, annoyed by these growths, scratches itself as it can; scabs of the skin get loose. They are particularly rich in virulent bacilli. Their dissemination spread the disease, and the infection is so much more dangerous than passing from the parrot; the pathogenous agent seems to have gained more infectious power. What is the end of the history of this bird? The first owner died. By his will the parrot went to a young woman, healthy and strong. After a few months she began to cough, to lose flesh. Affected with acute tuberculosis, she died in less than a year. No one around her had suspected the cause or origin of her disease. Her physician had never suspected it. Having become too homely, no one wanted the bird any more, and he was sent to my laboratory, where, for those who have seen his lesions, a diagnosis will remain evident and easily confirmed by bacteriologic examination.

"This observation shows the interest pertaining to the study of comparative pathology. It is not an isolated fact. It shows the responsibility of the physician who is ignorant of the peculiar characters of tuberculosis in animals.

"Similar remarks can be applied to a great number of human infections of animal origin—anthrax, glanders, rabies, foot and mouth disease, etc.—which we will consider during this course,

insisting on their comparative pathology, which the physician cannot afford to ignore.

* * *

"Although not having as immediate practical applications, the history of the non-infectious diseases does deserve also our attention. Animals are suffering with tumors, which, studied with activity in the last few years, have thrown much light upon the still dark question of cancer. Animals are also exposed to to visceral affections—the heart, bloodvessels, respiratory apparatus, the digestive tract, the liver, kidneys and the nervous system are the seat of troubles and of lesions—comparable to those that human pathology shows us. It is difficult to reproduce experimentally affections of that kind. But we can benefit by the cases that occurred outside all interference, to follow experimental researches, to explain the mechanism of the accidents, or to determine the action of medicamentous substances.

"We must, however, bear in mind that analogous diseases may assume different characters, according to the species of animals. For instance, what is observed with the nervous system? Contrary to what is noticed in man, paraplegia is much more frequent in animals than hemiplegia; the spinal cord is affected much oftener than the brain. That is a marked example of predispositions connected with this function. This etiological condition is well known. But perhaps it is not sufficiently brought forward; and it seems to me as important to the morbid aptitudes created by anterior troubles acquired insufficiencies, whether hereditary or congenital. When studying comparative pathology, one will meet contradictions which have no other cause. Morphine is a cerebral poison to man. With dog, before reaching the brain, it acts on the spinal cord and gives rise first to paresia of the hindquarters. The walking of the animal is altogether peculiar, and recalls that of the hyena (hyenoid walk of Cl. Bernard).

"Microbian poisons act as vegetal alkaloids. That is why, after spontaneous or experimental infections, paraplegia is so frequent.

"Comparative pathology is not less important for the therapeutist, for the hygienist and the physician. Most ordinarily one is satisfied to define what on healthy animals are toxic doses and also the effects of the different drugs. It would be good to complete by experiments upon animals those preliminary discoveries. Comparative therapeuty has already rendered valuable services. It is a veterinary medicine that has taught us the specific treatment of actinomycosis by iodide of potassium. And it is useless for me to remind you that it is to comparative pathology that is due one of the greatest discoveries of prophylaxy, by which the antivariolic vaccination has wiped out one of the most horrid of the human diseases and has inspired the modern researches with preventive vaccination.

"All those facts, briefly considered, will be sufficient to demonstrate the importance of comparative pathology, which can be still more appreciated by the study of the infectious diseases common to man and animals, such as anthrax, glanders, rabies, Maltese fever, foot and mouth disease, and tuberculosis."

* * *

PEROXIDE OF HYDROGEN.—That this preparation is extensively and advantageously used in medicine since years is a positive fact. But can it be applied in every instance, in every case, and are these indications where it is contraindicated or where, instead of being advantageous, it is useless and dangerous? In the *Journal de Medecine et de Chirurgie Pratiques,* Prof. Lucas Championnère, a French surgeon of world-wide reputation, treats of this question with the authority attached to his name:

"Surgeons who in our days use oxygenated water to take the place of other antiseptics have two notions in view, one of which is perfectly wrong and can bring to them serious effects.

They consider it as a powerful antiseptic. It is correct, but from this fact they fancy that it can be used in every instance when antiseptic action is needed. As it is not toxic, they believe that it can be employed freely and in every circumstance. But then in so doing they overlook a great property of that peroxide, viz., that it is one of the most powerful destroyers of all organic elements. Besides that, its decomposition is easy. And this decomposition is so rapid, when in the presence of an organic substance, that it can be said that in many circumstances all its antiseptic properties are lost.

"Those are the fundamental conditions which most often cause its use to be bad, inefficacious and very inferior to other substances of current application.

"Let us consider a few examples of these practical faults.

"Sometimes wounds are washed with it, which would otherwise heal rapidly. In this case it keeps the cicatrization back, and it is only when this is the object in view that such free wash is justified. Again, such washing is also applied upon wounds which would heal by first intention. Experience has proved that in these cases the application must be very discreet. Healing of an operating wound is easier and more perfect with a washing of strong phenic water or a solution of chloride of zinc than with peroxide.

"By opposition, regions where the secretions are abundant and septic are washed with a mixture of simple water and a very small proportion of oxygenated water. One can be assured that under this condition the antiseptic properties of the peroxide are of little use and the dilution has no action. Oxygenated water is sold now everywhere. It is not always very pure, without inconvenience to its antiseptic value. Indeed, it is so much greater that the water is more acid and perhaps a little more irritating. But it is more so than numerous other antiseptic substances. Peroxide is sold in various proportions of strength at 12, 20 and even 100 volumes. This is a good thing, as the true manner to use it is to employ a very small quantity of the water, very concentrated, with a very rapid contact. The addition of sulphuric

acid or of alcohol to preserve it or reduce its acidity is of no great advantage. Its application is always more or less painful.

* * *

" In what circumstances can oxygenated water be used?

" Specially whenever the passing action of a very powerful antiseptic is needed. Its application with a permanent dressing is an error and must never be resorted to.

" The most rational use is in local septicæmia, furuncles, abscesses. No other substance can be as powerful to arrest putrefaction in wounds and large suppurating centers. Then it can be used freely.

" It has been said that it acted only on anaerobic microbes. But it is an error, as it also acts on the aerobic. In a very aseptic center it can be used freely and repeatedly, and its action be reinforced by the use of another antiseptic, having a lasting effect, for the dressing. Injections in wide collection of suppuration can be used and repeated until the chances of cicatrization are present.

" In irregular wounds and those with small or large sloughs the local action of peroxide is most precious.

" Contused wounds of some dimension are kept back in cicatrization if treated daily with peroxide. Yet, if a small anfractuous wound, due possibly to the presence of foreign bodies, is injected every day with only a few drops of oxygenated water, all phenomena of infection may be prevented and no interference with cicatrization will occur.

" The skin may be sterilized with peroxide, but it must be done with care, as when its use is repeated too often it loses its effects.

" Peroxide has a destroying action on catgut. If peroxide is applied upon wounds close with catgut threads, these break and good cicatrization is prevented.

" When, after an operation, the wound has been infected, it would seem that the use of peroxide is indicated to limit the infection. It is an error. An injection in the suppurating tract

may be sufficient to break up the already existing union. Phenicated water or chloride of zinc, spirits of turpentine or tincture of iodine will, in such cases, give the best results.

" In the mouth and in the rectum the use of oxygenated water is very precious, as it is not toxic and, having a great antiseptic power in those centers, always septic. A great concentrated solution is well supported in those regions."

To resume, Lucas Championnière adds: " Oxygenated water is one of the most precious antiseptics known. It is an error to consider it as harmless because not toxic. Its untimely use may ruin the results of the best operation. The use of solutions made to dilute oxygenated water at 10 or 12 vols. is useless, as the real action of the product is only when it has not yet been decomposed by contacts which destroy it easily. As for other antiseptics, it is essential to use it in doses sufficiently high to obtain a powerful and passing action. Abuse or expected lasting action must not be considered.

" Oxygenated water can be used warm. In heating it, it is concentrated rather than reduced in the quantity of oxygen. Warmly applied, it avoids the unpleasant effect of cold coming in contact with the wound, and its antiseptic power is greater, as long as elevation of temperature always increases the strength of all antiseptics."

* * *

Severe Epizooty of Rabies.—In glancing over the *Annales de l'Institut Pasteur* for November, 1911, I found a very interesting record which presented some peculiar points of unusual observations, and was published by Dr. A. Parini, of Sao Paulo (Brazil).

Although it is not the first time that epizootics of rabies have been observed among domestic animals, this one proved of an extensive severity, having destroyed almost completely the bovine and equine population of the infected region and seriously interfered with the breeding carried on in the whole country.

A serious disease had been reported as prevailing among cows and horses and had been pronounced to be rinderpest, fortunately an error of diagnostic.

After its first appearance, the disease showed but little tendency to spread. But when it did, several towns were severe sufferers, and, if not exaggerated, reported as carrying away 4,000 bovines and 1,000 horses. The animals in these towns were not stabled, but left in open fields after working.

The disease presented itself under two different clinical forms, one in which predominated symptoms of paralysis (paralytic form) and another with those of excitement (furious form). Symptoms were alike in bovines and equines. The paralytic form was the most frequent. The symptoms lasted two or three days and were followed by gradually progressing paralysis behind. In the furious form manifestations of excited nature were shown from the start. The animals affected were very restless; kept first away from the others, and soon became aggressive and attacked men, as well as other animals. In some, elevations of temperature could be noticed, yet fever was not always present. There have been observed in some great hyperesthesia of the skin, and the animals would keep rubbing and scratching or even biting their own skin and tearing it.

The total duration was only of a few days and ended in complete paralysis.

As all the animals were sure to die, no treatment was resorted to. The meat and skin of the animals were often used, no bad results being reported.

The autopsy revealed no macroscopic lesions worth mentioning, only hyperemia of the meninges and of all the central nervous system.

The symptomatology suggested rabies, and this was somewhat confirmed by the history of the recent presence of rabid dogs in the vicinity. However, the examination of sections of the nervous specimen settled the question. The presence of numerous corpuscles of Negri, well characterized with the manifest infiltration round the capillaries and the proliferation of the cells

of the endothelial capsule, as found in animals dead with rabies, removed all possible doubts as to the nature of the disease. Besides them, submeningeal inoculations gave rabies to rabbits.

Another interesting point to notice is this: The number of mad dogs observed in the region did not seem in proportion with that of cows and horses affected, and consequently it is probable that wild animals may have acted as transmittors of the affection. Some people, worthy of belief, have reported to have seen in the fields bats flying in full daylight, attacking bovines and biting them. These cattle died a few days after.

It certainly would have proved very important to verify experimentally, if truly, these bats were rabid, and if they could transmit the disease.

* * *

ADRENALINE AND DETERMINATION OF SEXES.—The determination of the sexual nature in utero of fœtal products has always been an interesting question, and its importance is very great when considered from the point of view of breeding in animals. Many are the theories advanced explaining it, and many suggestions have been made to solve the problem. Lately the question has received a new impulse, so to speak, by a communication which was made at the *Academie des Sciences,* in Paris, by Prof. Leon Labbé. The authority of his name and the importance of the subject have necessarily called the attention of interested parties, and as a result I have received from a friend from America a letter asking for information as to the application and value of the recent discovery. One of his best clients, extensive breeder of fine cattle, wanted to know what there was in an article which had appeared in a western journal and which promised, or at least suggested, the possibility of determining or obtaining a special sex at will. Information was asked. It is difficult to say for the present what value there is in the conclusion of Professor Labbé's communication. And to give final information, I send the following compte rendu extracted from the *Bulletins de l'Academie des Sciences:*

"*Action of the Suprarenal Glands Upon the Determination of Sexes.*—Dr. R. Robinson believes that the suprarenal glands must have a primordial influence upon the organism of the egg and the sex of the embryo. Various kinds of facts are advanced in favor of this opinion.

"1. Adrenaline has a reducing influence upon the cardiac beatings of the fœtus, and it is known by numerous observations that if the number of fœtal cardiac beatings varies between 136 and 150 per minute the sex is feminine 68 times out of 100, and is always feminine if above 150. Therefore, by giving adrenaline to a mother in the first days of pregnancy there is every chance to influence the circulation, as well as the formation of the sex of the embryo.

"2. It is to be noticed that the superrenal glands seem to act, after birth, if not upon the sex at least upon some of the attributes. In female subjects having during life exhibited some of the masculine sexual attributes, such as beard, moustache, thick coat of hairs on the body, masculine tone of voice, etc., the post mortem has revealed alterations of the superrenal glands.

"3. Finally, having made researches for the presence of adrenaline in the blood and the urine of pregnant women, Dr. Robinson has observed that he could prognosticate with certainty, from the fourth month of pregnancy, the sex of the child to be born. When adrenaline is found—that is, when the functional condition of the superrenal glands of pregnant women is good—there is a male production; in the other condition it is a female."

The field of experiments is open; there is certainly something which deserves attention; and yet it is not without some hesitancy that one can advance a positive opinion in the present condition of the question. If there is a possibility to arrive at the results indicated, experiments, and very careful, at that, will be the only way to settle it.

* * *

BIBLIOGRAPHICAL ITEMS.—Drs. L. Van Es, E. D. Harris and A. F. Schalk, chief and assistant veterinarians to the North

Dakota Agricultural Station, have published in Bulletin No. 94 of the Agricultural College a pamphlet on "Swamp Fever in Horses."

This peculiar disease has already been the subject of many publications. Its history, etiology, pathogeny, symptomatology, etc., etc., have been considered and treated in the writings of many pathologists all over the world, and consequently it is well known. And yet it has given occasion to these three investigators of North Dakota for valuable experiments, information, discussions and new opinions, which are well presented in their Bulletin. There also are reproduced very good photographs which illustrate the text, and also several plates, with the various records, taken from a number of animals, subjects of experiments. The table of the entire bibliography relating to that disease which is in the pamphlet shows the amount of inquiries made by the authors.

The general conclusions are as follows:

1. Swamp fever is a disease of infection, transmissible by subcutaneous and intravenous injection and by ingestion through the alimentary canal.

2. The virus producing the disease is contained in the blood and urine of affected animals, but it is absent from the faeces.

3. The virus has thus far been demonstrated only in an ultra-microscopic form.

4. The virus is resisting to the severe freezing weather of our more northern climates.

5. While not denying the possible transmission of the disease in healthy animals by means of insects and parasites, animals contract the disease naturally, by the ingestion of food and water, contaminated by the urine of an infected horse.

6. The disease is essentially a septicæmia, anatomically marked and subserous and subendocardial hemorrhages in the more acute forms, by occasional involvement of the lymphnodes and spleen, by the degenerative changes in the parenchyma of heart, liver and kidneys, and probably also by certain alterations in the bone morrow of the long bones of the limbs.

7. The chief and most constant manifestations of the disease are fever and albuminuria. The former is remittent or intermittent, not uncommonly at more or less regular intervals, while the latter is transitory and frequently synchronous with the febrile exacerbations.

8. Many cases of swamp fever terminate fatally without a marked reduction in the red blood cells, a fact denying the popular conception of " swamp fever " being primarily an anæmia.

9. The blood of an animal may remain virulent for as long as 35 months after the initial infection without the infected horse manifesting any clinical evidence of the fact.

10. Such non-clinical infection carriers probably play an important part in the establishment of more or less permanent centers of infection.

11. Both trypan, blue and atovyl, are worthless in the treatment of the disease.

12. In the light of our present knowledge we have to depend upon such prophylactic measures as the destruction of diseased animals, segregation of suspects, care in introducing new horses in the stable, the safeguarding of food and water supply from urine contamination, pasture drainage and stable disinfection.

A. L.

THE "REVIEW" AND ITS READERS.

In coming to our readers with this, the first number of volume forty-one, we desire to thank them for their hearty co-operation during the making of the volume just closed—co-operation that has made it possible for us to give to them the best veterinary periodical that has ever been produced in *any* country; that has enabled us to make volume forty of the AMERICAN VETERINARY REVIEW what *all* its preceding volumes have been during the past nigh forty years, *every* veterinarian's magazine. Just as welcome because just as valuable to the practitioner as to the

scientific worker or laboratory man, and just as welcome because just as valuable to the laboratory man as to the practitioner. Yes, what all its preceding volumes have been for nigh forty years, except that it is greater and better in all respects than it has ever been. That is but natural; its resources for being better and greater have developed; the profession (of which it is a contiguous part) is bigger and greater than ever in its history, and the profession makes and supports the organ, through which it disseminates its thoughts and ideas, and through which it builds up its science. As a tangible comparison, both of the REVIEW and its co-operators, it may be said that in the last volume of but six numbers, 832 pages were required in which to publish their contributions, as compared with a thousand to twelve hundred pages for a volume of *twelve* numbers but a few years ago. And the quality or character of the literature has, of necessity, advanced as the science whose history it is recording has advanced. And yet there is not one article that has been published that is not of value alike to the practitioner and scientific investigator who is devoting his life to the unraveling of problems and the elucidation of perplexing questions, that they may be applied to every-day use by the practitioner. And does not the practitioner, on the other hand, furnish the material, the need and the impetus necessary to the scientific investigator, that he may have the inspiration to work? Such, most certainly, is the case. And it is *because* these two sides of veterinary science meet on equal ground in the AMERICAN VETERINARY REVIEW that it has always been the successful veterinary magazine that it is; it is both scientific and practical. Perhaps we should say practical and scientific, because we must admit that the practical side predominates. We notice, for example, in glancing over the last volume, fifty-three original articles and one hundred and eighty reports of cases (from every part of the world) met in actual, every-day practice—diagnoses, treatments, results, post mortems; (this is exclusive of editorials, correspondence, society meetings, etc.)—and, besides, every one of the original articles treat directly on subjects of interest to the practitioner. Some treat on

more *technical* questions than others; for example, the more modern laboratory tests for the diagnosis of glanders, etc., that the practitioner is not in a position to apply himself, but he desires to understand them, and to be in a position to explain them intelligently to his clients. Therefore, he welcomes an article of that order, presenting the matter carefully worked out for him, in his veterinary magazine, that he may read it in his leisure moments until he has grasped its principles. Now suppose the general practitioner *has* got a little the best of it in the character of the articles, that does not work any hardship on the scientific investigator; the field work furnishes him with material upon which to *make* his investigations. What would the man in the laboratory do if it were not for the man in the field, the practitioner, the diagnostician, who furnishes the laboratory the specimens and can intelligently explain their source? It brings us right back to our old stand, the REVIEW's happy combination of the science and the art of veterinary medicine (practical articles and case reports from daily practice), the practitioner always being its first consideration, the end to which all its means lead. In fact, the appreciation expressed by so many, *many* practitioners of the help and inspiration that the REVIEW is to them has actuated this response.

And so it will *continue* to help and inspire them; through their *own* efforts in recording their experiences in its pages (which are ever open to them), that they may profit by the work of each other; through the efforts of our large list of collaborators, made up from among the most learned men in the profession of this and other countries, who are ever willing to reduce scientific matters to their practical application, and through its editors, who are only human, and, therefore, not infallible, but who are always willing to sacrifice themselves, if necessary, in championing the cause of the profession on the side which they *believe* to be right.

KEEPING THE VETERINARIAN DOWN.

If a man has genuine abilities, he cannot be kept down. If a people, or a state, or a locality has genuine worth, it cannot be

kept down. If a profession is in reality a profession, and has genuine abilities, or work of value to do for the world, that profession cannot be kept down. The endeavor to keep down such a man, such a people, or such a profession, arouses such a rebellion that those who set up this opposition to growth and advancement may well tremble at the consequences. The endeavor to keep down such a man, such a people, or such a profession, is like attempting to shackle with chains the volcano Vesuvius, which will show fire and steam, lava and heat, as it has done for a thousand years, whatever you may do in your feeble attempts to stop it. That man is seriously in error, who thinks that he can trample under foot the man of genuine character who happens for the hour to be subservient to him, and who thinks he can keep down such a man. That ruler is foolish, that government is worse than foolish, that thinks it possible to keep down and hold in scorn a race or people where genuine talent of obvious usefulness is to be found. That government which recognizes the value to it of all other professions but one, discriminating against that profession, so that the galling shamefulness of its acts to it are enough to make the eyes well with manly tears, may expect no more than that that profession shall have its muscle and sinew strengthened, its brain heated to the intensity of the white light of the sun, and its moral nature mightily aroused to ungovernable resentment against the injustice of the foul discriminations, and rebellious against the torture of having its genuine value laughed at, its best intentions and its best work treated with scorn.

Keeping the veterinarian down. Yes, that, for full forty years, has been the policy of the War Department of the United States towards the veterinarian. The records show that the army veterinarian has done all that was required of him by the War Department, and, in innumerable instances, has gone much further than the requirements. Through his suggestions veterinary hospitals have been established at posts and in the field; remount depots have been instituted; purchases of animals have been made along rational lines; riding and saddlery have been immensely improved; rational practice of medicine and surgery

has been maintained; officers and men have been taught in hippological lectures the essentials of veterinary science; farriery has been improved. In short, in scores of ways the army veterinarian has been, as a professional man, a boon to the War Department. Moreover, the army veterinarian has, with his regiment, in time of danger, faced unflinchingly disease and death. He has acquitted himself with the fortitude of the soldier; has been maimed in limb, cut down, or died from disease in the army hospital or the field. What are his rewards for it? To be spurned by the War Department he serves; to be tittered at as a person of no consequence; to be kept down as if he were a man without knowledge, without genuine worth to the government or to his country.

How much longer will the veterinary profession tolerate this iniquitous policy of the War Department of keeping the veterinarian down? Is the veterinarian a foul thing, that he should be shunned? Is he a rough, uncouth, collarless boor, or is he a gentleman fitted out in regimental dress, a man of dignity, special knowledge and attainments, suitable for the company of officers and gentlemen? The veterinary profession must smite the policy of keeping the army veterinarians down and brand it as infamous. And, because the Committee on Military Affairs of the House of Representatives gave a patient hearing to Chairman Hoskins, of the Legislative Committee of the American Veterinary Medical Association on February 28 last, and listened attentively at that hearing to addresses by Captain J. A. T. Hull, Lieutenant-Colonel M. A. Piche (Canadian Army Veterinary Service), Dr. John R. Mohler (B. A. I.) and Dr. John P. Turner, and seemed to be much impressed with the statements and arguments brought to them by those earnest gentlemen, who had pleaded our cause well, it is not to be taken as a sign that the battle is won, or that any one person can slacken his zeal in the slightest degree. It means, on the contrary, that the battle for the passage of the bill to commission veterinarians in the United States Army (H. R. 16843) is on. And, while it cannot fail of passage if every veterinarian in the land will get his Represen-

tative pledged to support it, it will fail if you slacken your zeal now; if you do not stand behind your committee to a man, fighting until the last atom of opposition has been withdrawn. Relaxation on the part of one man may lose the fight. This is a crucial moment. The interests of the profession in a great department of the government are at stake. The bill was introduced in the Senate by Senator Penrose of Pennsylvania on March 12th, and was referred to the Senate Military Committee, a list of whose members is published on page 22 of this issue. In asking your Senators to support this measure in that body, endeavor to have them exert all their influences in having the bill favorably reported by that Committee.

RENEWED ACTIVITY IN THE HORSE-BREEDING INDUSTRY.

As a result of a combination of causes the horse-breeding industry seems about to spring into renewed activity throughout the country. One, and perhaps the initial cause, is the realization on the part of the American people, of the scarcity of available horses suitable for army remounts, which has recently been brought so forcibly to their attention by Major-General Wood, Chief of Staff, United States Army. Another is the realization on the part of those who have for the past few years replaced their horses and carriages by automobiles, that they have sacrificed all the individuality, style and finish that goes with a beautifully equipped "coach and pair," manned by a liveried coachman and footman, for the monotony of a "machine" that is like a thousand others, manned by an "engineer," who lacks all semblance of style or gracefulness; and at many, *many* times the cost of maintaining their horses. Still another, is the realization on the part of those employing large numbers of both light and heavy truck horses, that the promises of the builders of autotrucks to furnish them with a more economical means of traction and transportation in general city trucking have not been

proven; but they have seen, on the other hand, that the horse is the more practicable and economical for their purposes. What has been the result of this realization? Thinking men all over the country have begun seriously to consider ways and means of restoring as rapidly and as economically as is consistent with the gravity of the situation the great horse-breeding interests of our country that have been neglected for the past few years by many who have been deluded by the promises and exploitations of capitalists who have endeavored to force their visionary "horseless age" upon the people, in an effort to create a market for their commodity. We do not foretell an "autoless age" in the immediate future, nor perhaps ever, but we *do* predict a more sane view of the situation by those whose interests are involved.

You can only hold men by their interests. Sentiment for the horse, or prejudice against the machine, can have no influence and must be left entirely out of the question. Their interests and not sentiment have set the farmers of New York State thinking, since they have realized that they have allowed the horse-breeding industry of that great State to lapse 80,000 head behind their own annual requirements, as pointed out to them by Professor Harper of Cornell University. Just think of it, one of the best States in the Union for horse-raising, on account of its fertility and vast acreage of level grazing land, through negligence having to purchase from outside its borders 80,000 head in one year, for its own uses, at a cost of $16,000,000, when it ought to be selling a surplus after supplying its own markets. That the realization has quickened the interests of the farmers in the Empire State is evident from the movement started by Professor Harper for the organization of a Horse Breeders' Association in that State, and by the action taken by Governor Dix in directing the Commissioner of Agriculture to take steps to learn what methods could be adopted for the purpose of stimulating this very important branch of animal husbandry on the part of breeders and farmers in the State. And we have no doubt but what this general interest in the horse-breeding indus-

try has been awakened all over our great country. It is the natural outcome of demand. Demand not alone for army remounts. Those we want to take seriously into consideration and to accumulate, so as to be prepared to replenish the supply; they cannot be manufactured when actually needed, and their "breeding" is something we should like to have discussed through these columns, as we feel sure there are plenty of men in the veterinary profession possessed of good ideas on the subject that should be "aired." But it is encouraging to the general practitioner to contemplate the fact that the demand for draft horses and general-purpose horses is on the increase, and there is also some increase in the demand for carriage horses, and a brisk demand for saddle horses. But to return to the draft horse, we might cite many instances in support of our statement at the outset that the auto-trucks had not filled the place in city trucking their advocates claimed for them; but our space is limited, and we will confine ourselves to one for the present. A large contractor whose headquarters is in the same city as the REVIEW recently placed an order for five hundred fancy drafters to add to his stock of horses. This gentleman explained that after experimenting with mechanical substitutes for the past nine or ten months, he was convinced that horses were more reliable and economical than machines, and henceforth he will stick to the horse; explaining that his entire system was to be changed to three-horse teams; having found this sort of equipment to work better than any other in moving earth, rock and cement. With dump-wagon, harness, blankets and everything complete, of the high grade which he uses, these three-horse turnouts cost about $2,000. One of these turn-outs will move off gracefully with six tons of material, and 98 per cent. of the equipment is in a serviceable condition at all times, and if a horse or a driver is disabled it is always easy to replace him in a few minutes, without putting the whole equipment out of service, as is the case when something goes wrong with an auto-truck. The president of this firm further states that there are no repairs worth talking about (an immense item with the auto-truck), and that

there is little deterioration in value. On the contrary, horses bought right, usually improve for a year or two, and it is not an uncommon experience to sell them at auction after completing a contract of perhaps two years' duration for more than they cost when green. On an average, however, he states that horses, trucks and harness depreciate 10 per cent. a year, and that much is charged up against them on the books of the company. The type of horses used by this company weigh from 1,550 to 1,750 pounds. The above citation is not a fancy mind-picture, but are the conclusions arrived at as the result of a wide experience by a practical, reliable business man, held only by his interests; sentiment or prejudice playing no part whatever. And we give it to our readers as encouraging evidence of the work-horse's ability to "hold his own" against the auto-truck. Perhaps, too, these arguments may serve to influence a wavering client who is considering the advisability of replacing his horses by mechanical devices. Encourage the breeding of horses in your district; they will find a ready market in the big cities.

INCREASE RATHER THAN REDUCE CAVALRY SERVICE IN U. S. A.

The action taken by the House of Representatives to reduce the strength of the cavalry in the United States army by five regiments, or one-third of this arm of the service, is one of grave concern; especially at this time when the country in general has just awakened to the realization of the great scarcity of horses suitable for remounts; the troops of the National Guard in many of our States not being able to obtain suitable horses upon which to drill their men. This condition of affairs makes it imperative that the United States Army not only *not reduce* its cavalry, but *increase it,* so that in the event of war (for which a nation must *always* be prepared) enough trained cavalry men, mounted upon trained horses, would be available to move *immediately* and prevent a repetition of such a disaster as

happened to England in the South African War, which was practically at a standstill until enough mounted troops could be gotten to the scene of action. The United States does not pretend to keep a large standing army, our policy being to maintain a nucleus which is rapidly augmented in time of war from volunteer recruits; but we cannot recruit the cavalry arm of the service at short notice. The horses must be procured (not the least difficulty at the present time); they must be trained to the service, and men must be trained to ride them, and ride them intelligently and well, so that they will assist and not hinder at a crucial moment.

So that, in view of the difficulty that would be experienced in recruiting our cavalry from the National Guard, because of the scarcity of horses, we believe it imperative that we maintain our eleven regiments of cavalry with its 8,580 men (which we would like to see increased to 10,000), and urge upon our readers the necessity of bringing the matter before their representatives in the Senate to whom it will soon be referred.

BILL TO COMMISSION VETERINARIANS U. S. ARMY (H. R. 16843) referred to Senate Committee on Military Affiairs (Senate Bill No. 5792)—Henry A. duPont, of Delaware (Rep.), Winterthur, Del.; Francis E. Warren, of Wyoming (Rep.), Cheyenne, Wyo.; Joseph M. Dixon, of Montana (Rep.), Missoula, Mon.; Frank O. Briggs, of New Jersey (Rep.), Trenton, N. J.; Norris Brown, of Nebraska (Rep.), Kearney, Neb.; Simon Guggenheim, of Colorado (Rep.), Denver, Col.; Joseph L. Bristow, of Kansas (Rep.), Topeka, Kan.; Wesley L. Jones, of Washington (Rep.), North Yakima, Wash.; William Lorimer, of Illinois (Rep.), Chicago, Ill.; Murphy J. Foster, of Louisiana (Dem.), Franklin, La.; Joseph F. Johnston, of Alabama (Dem.), Birmingham, Ala.; James P. Clarke, of Arkansas (Dem.), Little Rock, Ark.; Robert L. Tayler, of Tennessee (Dem.), Nashille, Tenn.; George E. Chamberlain, of Oregon (Dem.), Portland, Ore.; Gilbert M. Hitchcock, of Nebraska (Dem.), Omaha, Neb.; John Sharp Williams, of Mississippi (Dem.), Benton, R. F. D. No. 1, Miss.

ORIGINAL ARTICLES.

HOW WILL THE ERADICATION OF THE CATTLE TICK BENEFIT THE PRACTICING VETERINARIAN?*

By A. C. Stever, Veterinary Inspector, U. S. Bureau of Animal Industry.

Success for the veterinary practitioner in any community depends largely upon the number and quality of animals in that section.

Progress along any line, especially the livestock industry, depends upon the breeding of high-class stock, either grades or pure-bred. This condition of affairs in the section of the United States quarantined on account of the Texas fever tick can only be accomplished through the eradication of the tick, because cattle owners in this area will not, and I might add cannot, profitably make a success of breeding and marketing cattle.

In the Middle West during the early nineties horses and mules were cheap, on account of the national panic at that time and the large number of inferior animals, consequently hundreds of veterinarians left their practices in the rural districts and took up their abodes elsewhere. Fortunately for some who remained, however, an interest in cattle raising was stimulated; cattle were selling high. The farmers became interested, started breeding good cattle, and as a result the veterinarian who remained in those districts soon enjoyed a lucrative cattle practice.

Georgia—the entire South, for that matter—is distinctly an agricultural section, and in the rural districts the veterinarians must have a limited practice, because, as a rule, the small farmer

* Presented at the Fifth Annual Meeting of the Georgia State Veterinary Medical Association, Atlanta, Ga., December 21, 1911.

is not interested in cattle raising and very little attention is paid by him to the breeding of other livestock on the farm.

I believe you will agree with me that in considering the natural resources of the State we should have many more good cattle, also many more veterinary practitioners.

Tick eradication, in my opinion, is really the foundation of progressive agriculture, because we need more and better cattle. If the farmer could raise cattle profitably, surely he would realize the benefits to be derived from saving barnyard manure and thereby increase the fertility of the soil; this really should make the farmer more prosperous and independent.

A great deal has been said lately in the various newspapers throughout the State, also the agricultural papers, regarding "the back-to-the-farm movement." Cattle breeding has been given some attention, but not what it deserves.

Corn shows are being held, and I believe every prize acre of corn in the "Boys' Corn Clubs" was liberally supplied with barnyard manure. I am also sure that soil liberally fertilized will combat some of the various plant diseases of cotton, because it will cause it to mature much quicker.

I am surprised (not agreeably, though) at the very little interest manifested in the work of *tick eradication* by the practicing veterinarians, especially those located in the infected areas. It seems as though they have given this important subject very little consideration and thought, in fact, they generally lent a deaf ear, just like the natives in the infected territory, who invariably say, "We have seen ticks all our lives," and, of course, add, "We expect to continue seeing them until we die."

I believe one purpose of this association is to better the general existing conditions, especially that pertaining to the livestock industry of our State; therefore, as Dr. Bahnsen so aptly states on the program of this meeting, "Your interest is at stake. Parasites alone expect to reap where they do not sow." And, gentlemen, it is your duty, each and every one of you, not only for the sake of humanity, but you owe it to the veterinary profession, to assist in this great work of tick eradication, in order

that the infected area may be freed as quickly as possible, and that the farmers of this territory may make a success of cattle raising.

While supervising the work in middle Georgia and other sections of the State I personally came in contact with dairymen who had infected premises. These people were finally persuaded to eradicate ticks from their farms. After this was done, the cattle greatly improved in condition, the owners became interested, asked for the tuberculin test, also tried to establish sanitary dairies, and were really proud of the fact that they had accomplished so much along this line. Cattle in the same section enhanced in value and the cattle owners paid more attention to livestock ailments. Even negroes quite a distance from the county sites became interested and replaced their scrub bulls with purebred Herefords in some instances.

I understand in Greene County, Ga. (this is claimed to be one of the leading dairy counties in the State), that they ship annually to this city about $100,000 worth of dairy products. Of course this is fine, and the natives down there will tell you that "the dairyman is the backbone of that community." In fact, general appearances of the dairyman's premises in that section indicates success and progress. Yet when you consider the natural resources of the State, together with the fact that we import annually between eight and ten million dollars' worth of dairy products, it would seem to me that Greene County should ship at least ten times the present amount.

From personal experience I believe that tick eradication stimulates the farmer to engage in the breeding of good cattle; it does certainly encourage him to realize the importance of close attention along veterinary medical lines. I make this statement because of the numerous inquiries, while in the field, on this subject.

It is an admitted fact that the eyes of the nation are turned southward, also that after the removal of this great barrier high-class stock can be raised as cheaply and to a better advantage here than in any other section of the country.

It was not my intention to talk on tick fever, but, as previously stated, I believe the practicing veterinarian is not sufficiently interested in this work; also that at this time the entire South is waging a war against the common enemy. I have thought it advisable to prepare the following paper on "Tick Fever":

Tick Fever.

Synonyms.—Texas fever, southern cattle fever, red water, black water, distemper, acclimation fever, murrain, dry murrain, yellow murrain, bloody murrain, Mexican fever, Spanish fever, splenic (or splenetic) fever, protozoan cattle fever, hemaglobinuria, tristeza, paludism of cattle, bovine periodic fever, bovine piroplasmosis or bovine malaria, is a specific infectious disease of the blood of cattle caused by the development and activity of minute animal parasites (protozoa), which are conveyed to the affected animals by means of the cattle tick, the *Margaropus annulatus.*

Ticks, What Are They?—A tick is an obligatory parasite which attacks mammals, birds and reptiles. They do not appear to be so strictly confined to certain hosts as they do parasites in general, and the various species show a decided predilection for certain hosts.

Varieties of Ticks Common in the United States.—*Margaropus annulatus* (Texas fever or cattle tick), *Ixodes ricinus* (castor bean tick), *Dermacentor reticulatus* (net tick), *Dermacentor electus* (American dog tick, also called wood tick), *Amblyomma americanum* (Lone Star tick), *Ornithodoros meginni* (ear tick), *Argas minatus* (chicken tick), *Ixodes hexagonis* (European dog tick), *Dermacentor venustus* (Rocky Mountain spotted fever tick).

A Short Description of the Life History of the Margaropus Annulatus.—The large olive-green female tick, when fully matured and engorged, drops to the ground, and if conditions are favorable lays in from two to four days in summer to ninety-eight days in winter as many as 5,000 eggs.

After egg-laying is completed the tick dies in a few days. The eggs are small, elliptical-shaped bodies, at first of a light amber color, later changing to a dark brown, and are about one-fiftieth of an inch in length, and are covered with a sticky secretion.

After a time, ranging from 6 days in summer to 188 days during the fall and winter, the eggs begin to hatch. From each egg issues a small, oval, six-legged larvæ or seed tick. The seed tick usually remains more or less quiescent for several days, after which it shows great activity, ascends the nearby vegetation and collects on leaves. The seed tick during its life in the pasture takes no food, and consequently does not increase in size, and unless it reaches a host to take up the parasitic portion of its development dies of starvation. The endurance of seed ticks is very great, however, as they have been found to live nearly eight months during the colder part of the year.

Development on Cattle.—The parasitic phase of development begins when the larvæ or seed ticks reach a favorable host, such as the cow. They usually attach themselves to the skin of the escutcheon, the inside of the leg and flanks and to the dewlap. They at once begin to draw blood and soon increase in size. In from 5 to 12 days we have a molting stage. The new form has eight legs instead of six and is known as a nymph. In from 5 to 11 days after the first molt the tick again sheds its skin and becomes sexually mature. It is at this stage that males and females are with certainty distinguishable for the first time.

The male emerges from his skin as a brown, oval tick, about one-tenth of an inch in length. He has reached his growth and goes through no further development. He later shows great activity, moving about more or less over the skin of the host. The female is slightly larger and seldom moves far from the original point of attachment.

After mating, the female increases very rapidly in size, and in from 21 to 66 days after attaching to the host as a seed tick she becomes fully engorged and drops to the ground, to repeat the cycle of development.

History and Distribution of "Tick Fever."—The place of origin of this disease is unknown; it is claimed to have existed for centuries in some countries of Europe, among which are mentioned southern France, Italy, Turkey and along the Danube river in Roumania. It is also prevalent in the West Indies, Mexico, Central America, South America, Australia, Africa, Ireland, Finland, Germany, southern Russia, India, China, Japan and the Philippine Islands. It was probably introduced into the United States with the importation of cattle by the Spaniards during the early colonization of Mexico and the southern United States.

It seems to have been described first in this country by Dr. J. Pease toward the close of the eighteenth century. At that time a severe outbreak occurred in Lancaster County, Pa., and Pease, after investigating the condition, claimed it to have been due directly to the shipment of North Carolina cattle into the State.

Experience soon showed that the result following the transportation of southern cattle into the northern States was the death of all northern cattle along the roads which southern cattle had traveled, although the latter animals remained healthy. In 1868 Texas cattle shipped to Illinois and Indiana early in the summer caused enormous losses, and cattle shipped from these States to the East died during transportation. These great losses soon prompted the study of the disease by many scientific men, whose investigations soon established the great danger of allowing southern cattle to pass into the northern States, and finally resulted, in 1885, in the location of the infected district and the establishment of the Texas fever quarantine line in 1891 by Dr. D. E. Salmon, which have been the most important steps yet taken toward controlling the disease.

Smith was the first (1889) to recognize and describe as protozoa the intracorpuscular parasites, which are the direct causative agents of the disease, although Babes had previous diagnosed them as bacteria (*Hematococcus*) for Starcovici, who found them in the blood of Roumanian cattle in 1888. In 1889 and 1890 Kilborne, by conclusive field experiments, proved the

presence of the cattle tick to be essential in transmitting the disease.

It is interesting to note that this was the first experimental proof furnished on the subject of diseases borne by insects, or diseases that can be carried from one animal to another only by an intermediary host. This mode of transmitting infections has since become quite familiar to the public by the discovery that certain species of mosquitoes spread malaria and yellow fever to man.

(*To be concluded in our next issue.*)

AN interesting paper on "*Recent Methods for the Diagnosis of Glanders,*" from the pen of Professor Hadley of the University of Wisconsin, prepared, its author states, for the interest of the every-day practitioner, will appear as a leading article in our May issue.

DR. S. C. FREELAND, Marion, Kan., said in renewing his subscription: "We set great store by the REVIEW and look anxiously for each issue." We imagine the last number must have been particularly welcome, as the doctor stated at time of writing (March 8) that the snow was "ten feet deep on some roads, and still drifting."

PRACTITIONERS APPRECIATE THE REVIEW—Dr. J. B. L. Terrell, Dresden, Tenn., vice-president of the Tennessee Veterinary Medical Association, says: "I don't know how any busy practitioner can get along without the AMERICAN VETERINARY REVIEW; I have thirteen volumes bound, they are so convenient for ready reference. I would advise any veterinarian to have them bound."

DR. LOUIS P. COOK, president of the Ohio State Veterinary Medical Association, is a candidate for the Ohio State Senate. A desire to be in a position to serve the veterinary profession of Ohio led him to seek the nomination. The time and energy given to the compaign, and the great sacrifice of time afterward, if elected, is surely a great deal for a man to do for his professional brothers in his state, and should insure the steadfast support before, and gratitude after election, of every one of them.

AN UNUSUAL CAUSE OF UDDER DISEASE.*

By Louis A. Klein, University of Pennsylvania.

About the middle of November, 1911, the cows in a large dairy herd began giving milk containing small flakes and white, jelly-like clumps. At first only a few cows were affected, but the number gradually increased, until finally 90 per cent. of the cows gave milk of this kind. At this time the clumps and flakes were so numerous that the cotton strainer was clogged and the milk would not pass through. Usually the flakes were observed in the first part of the milking, but in some cases they did not appear until the middle or near the end of the milking. In a number of cases the condition was only temporary, disappearing in two or three days, but more often it persisted and the flakes became larger and more numerous. Some cows had only one-quarter affected, others two, three or all four. Difficulty was often experienced in getting the milk started through the teat of the affected quarter, the canal apparently being blocked. Frequently this was the first sign of the trouble. The feeds were suspected by the manager as being responsible, but the ration was changed several times without effect.

Two or three weeks after the condition appeared the writer made an examination of the herd. Forty-eight cows were found to be giving milk containing the white, jelly-like clumps and flakes. These, like the others in the herd, were in good physical condition and exhibited no pronounced symptoms of disease. There was no swelling of the udder, no pain on pressure, and no heat, except in one cow the point of the teat was rather hot. In a number of cases a red ring was observed around the opening of the teat canal, indicating congestion and swelling of the mucous

* Presented to the Pennsylvania State Veterinary Medical Association, March 5, 1912, at Philadelphia.

membrane. In a few cases the mouth of the teat canal was more or less closed by a scab of dried exudate or milk, and in several others the first stream of milk was divided or deflected from the normal direction, all pointing to the presence of a catarrhal condition of the membrane lining the teat canal and, perhaps, also of the mucous membrane of the cistern. In one cow pressure on the end of the teat forced a drop of mucous from the opening of the teat canal. There were twelve cows, which were among the first affected, in which a thickening of the mucous membrane of the cistern could be detected, and in several of them there was also induration of the lower part of the gland tissue—evidences of the connective tissue formation associated with chronic inflammation.

These alterations are symptoms of catarrhal mastitis, in which disease there is a similar change in the milk, and the gradual spread of the condition through the herd suggested the presence of the streptococcic, contagious form of catarrhal mastitis. But the milk from the herd had been examined once a week by a bacteriologist, and not only had no streptococci been found, but at several of the examinations made during the prevalence of the trouble the bacterial count was lower than usual, as is shown by the Table B, given below. Moreover, the distribution of the affected cows through the herd was not such as to indicate transmission of the infection in milking. Samples of milk were taken from three cows in different stages of the condition, centrifuged, and the sediment examined microscopically, and the mucus pressed out of the teat opening of the cow mentioned above was also examined miscroscopically, but no streptococci could be found, and very few leucocytes. Very few bacteria or cells or any kind were present. These samples were centrifuged on the farm with a hand centrifuge for urine and blood work, but the results were subsequently confirmed by the examination of these samples of milk in the milk hygiene laboratory of the Veterinary School, in which work I wish to acknowledge the co-operation of Dr. H. C. Campbell. These three samples were altered in different degrees, No. 1 showing small flakes, No. 2 larger flakes and more

numerous, and No. 3 a few small flakes. The udder was cleaned as usual, the teats wiped with alcohol and milk drawn from each quarter into clean bottles, the fore milk being included. The examination was begun when the milk was about twenty-four hours old, and the results were as follows:

TABLE A.

No. of Sample.	Per cent. Acid 12/1/11.	Per cent. Acid 12/8/11.	Alcohol Test.	Catalase test (No. c.c. o in 2 hrs.).	Reductase (MB) test. (Time of reduction).	Per cent. Sediment and Leucocytes (Trommsdorff Method).
1.	0.31	0.32	....	1½ c.c.	36 hrs.	0.01
2.	0.3	0.342	....	3 c.c.	20 hrs.	0.01
3.	0.288	0.316	....	3 c.c.	36 hrs.	0.02

	No. Leucocytes per Field (Stokes method)	Presence Streptococci Microscopically	Fermentation Test	No. Bact. per c.c.
1.	4	.....	24 hrs. no curd	1250
			36 hrs. lactic acid curd....	....
2.	5	.....	24 hrs. no curd	750
			36 hrs. lactic acid curd....	....
3.	7	.....	24 hrs. no curd	2500
			36 hrs. lactic acid curd....	....

Since these facts and circumstances did not indicate the operation of bacteria, and changes in the feed had had no influence, it became necessary to look further for the cause. During the examination of the cows I observed that many of them showed symptoms of irritation of the skin of the udder, especially about the base of the teats. The skin in this region was dry and stiff, scaly, and sometimes swollen or thickened. In many instances small scabs were present, indicating the previous existence of a crack or fissure, and in some cases small abrasions or excoriations were present. The condition resembled in all respects a mild acute or subacute inflammation of the skin. Of the forty-eight cows showing the milk changes or teat symptoms, indicating the

presence of catarrhal mastitis, thirty also exhibited these alterations in the skin covering the base of the teat. I therefore concluded that there was probably some connection between the two, and directed my investigation along that line.

Special efforts are made on this farm to produce the best milk possible, and an unusual amount of work had been done to get the cows as clean as possible before milking. After they had been thoroughly brushed and all the dirt removed that could be gotten off in this way, the rear portion of each animal was washed. The croup, buttocks, flanks, the legs (inside and out, down to the claws), the tail and the udder were washed with a mild disinfectant solution. The solution was used freely, about a twelve-quart bucketful being used to every eight cows, and was applied to the udder with a cloth and to the other parts with a stiff brush. After this, the udder was washed a second time with clean water, to remove the disinfectant solution. When the cleaning process was completed, the washed surfaces were quite wet, and remained in this condition until dried by the air. The cows were subjected to this treatment twice each day.

This method of preparing the cows for milking was not adopted until May, 1911, and had, therefore, not been previously tested in cold weather. The udder trouble began about the middle of November, just after cold weather had begun. There were more affected cows in the end of the stable where the doors were frequently opened and kept partly opened for ventilation than in the other end where they were almost constantly closed. The irritated condition of the skin observed on the udders was just at the point where fluids placed on a clipped udder would collect by gravitation, and which, therefore, would remain wet longest. It is well known that repeated exposure of the skin in a wet condition to cold will produce an inflammatory condition. Exposure of the udder to cold is also one of the recognized causes of inflammation in that organ. Moreover, at the point where the skin alterations were observed, the mucous membrane lining the cistern is only separated from the skin by a single layer of fibrous tissue and the subcutaneous and submucous connective tissue.

These facts all pointed to the exposure of the wet udders to the cold atmosphere as the cause of the skin alterations, and, also, as the probable cause of the catarrhal condition in the udders. The strength of the disinfectant solution was not sufficient to cause irritation. It therefore seemed necessary to stop the use of such excessive quantities of water in cleaning the cows. It was recommended that the cows be cleaned as thoroughly as possible by dry-brushing, only using water when necessary to wash off wet manure, and that the udders be wiped with a cloth dampened with a 2 per cent. solution of sodium carbonate and then anointed with a small amount of vaseline. This treatment, it was believed, would protect the milk from contamination during milking equally as well as the washing process, and would also have a beneficial influence upon the skin of the udder and, perhaps, also, indirectly upon the udder trouble. Each cow showing changes in milk, except the twelve showing thickening of the mucous membrane and induration of the gland tissue, was also to receive 3 drams of bicarbonate of soda and 1½ drams each of sodium sulphate and potassium acetate upon the feed twice daily. Bicarbonate of soda and sodium sulphate were prescribed because they are recommended in catarrhal conditions, and potassium acetate was included because it was thought its diuretic action would be of service in eliminating substances that were irritating the mucous membranes of the udder. More effective internal and local remedies could have been selected, but in prescribing treatment the number of affected animals had to be taken into consideration, together with other circumstances. The twelve cows above mentioned were separated from the others and given special treatment.

The recommendation to change the method of preparing the cows for milking was regarded with some doubt by the manager at first, because he feared the proposed method would not be as effective as the old in keeping bacteria out of the milk, and his uncertainty was increased by the opinion of a prominent bacteriologist, that if the system of washing was abandoned the number of bacteria in the milk would be increased. It also required

a day or two to get the material and make the necessary arrangements, and two or three days longer for the men who were cleaning the cows to learn the difference between washing the udders and wiping them with a damp cloth, so that it was the 11th of December before the new method was put into operation completely. A few days later the manager reported no additional cases of the udder trouble had been discoverd for a day or two. The effect upon the bacterial count may be seen by examining the table given below. The samples for examination were all taken from the general stock after the milk had been delivered in the city.

TABLE B.

Date of Examination.	No. Bact. Per c. c.	Date of Examination.	No. Bact. Per c. c.
Nov. 6	600	Jan. 2	300
" 14	1000	" 8	sterile
" 21	400	" 16	900
" 27	800	" 23	900
Dec. 6	1500	" 30	600
" 12	400	Feb. 7	sterile
" 18	1200	" 13	sterile
" 26	700		

On December 29 the herd was again examined and it was found that a great improvement had taken place in the udders externally, with the exception of one cow. The skin, especially at the base of the teats and over the teats, was soft and pliable. The udders were also improved internally, as the number of cows producing milk containing flakes had decreased very considerably. The cow that had not improved showed thickening of the mucous membranes and induration of the gland tissue and was placed with the twelve previously separated. One of the latter had recovered and was put back in the herd; the others showed little, if any, improvement, and it was decided to send four of them, which were nearly dry, to the butcher.

Another examination of the herd was made on January 22, about three weeks later, and it was found that the number of cows affected with the udder trouble had decreased to less than

2 per cent. of the milking herd. The stable foreman stated that the "milkers" found milking easier with the new method of cleaning and preparing the cows for milking and were not bothered with "chapped" or "cracked" teats, or sores on the teats. He also stated that the cows were milking better than formerly. Of the eight cows remaining of the twelve separated from the herd four showed some improvement.

At the time of the last examination, February 19, these four cows had recovered and the other four showed some improvement. The udders of the cows in the milking herd were in good condition externally and internally; only one cow of the 321 showed chapped teats, and the milk of only a very few contained small flakes. When the treatment was begun the flakes and white, jelly-like masses could be found in the milk from 90 per cent. of the cows, and in twelve cows thickening of the mucous membranes and induration of the gland tissue had taken place. The results of the treatment, therefore, confirm the conclusions with regard to the cause.

According to H. Weigmann (Mykologie der Milch, p. 123), the presence of flakes in milk may be due to the drying of milk in the opening of the teat canal or in the folds of the mucous membrane of the teat canal, or to catarrhal mastitis, especially inflammation of the mucous membrane of the milk cisterns and the large milk ducts. Where the flakes are the dried residue of milk it would seem that they would be present only in the first streams from the udder, but this was not always so in the cases under discussion, and, moreover, in several cows symptoms of congestion and swelling of the mucous membrane of the teat canal were observed. Rühm (*Zeitschrift f. Fleisch- u. Milchhyg.*, p. 17, October, 1910) states that milk may contain flakes in consequence of the introduction of "plugs" of bacteria into the teat opening.

The occurrence of mastitis without the intervention of bacteria seems to be rather rare, Kitt (p. 203, Path. Anat. der Hausthiere) says "only a few cases have been observed in which the milk from the affected udder was free from bacteria, and, therefore,

due to some cause other than bacteria, *e. g.*, chilling." In the milk examined there was an absence of the bacteria usually concerned in mastitis, and leucocytes were not present in excess of the number found in normal milk. According to Guiteras (p. 62, Notes on Path. and Bact.), there is a mucous catarrh, in which we have chiefly a stimulation of the normal function of the cells, *i. e.*, an excessive secretion of mucus, with few leucocytes present. This would seem to be the condition present in these cases.

Dr. T. Wrigglesworth, Eau Claire, Wis., writes: "I take pleasure in enclosing my check for $3 to renew my subscription for the Review; permit me to express my appreciation of your efforts, as I believe we have in the American Veterinary Review the very best veterinary journal published."

In our December number we published a report of the "Revised Veterinary Association of Kentucky," as Dr. Robert Graham, its secretary, was pleased to call it, but from the account of their February meeting, as reported by Secretary Graham and published on page 125 of this issue, they might very appropriately have used the term "revived." For surely the program enacted is suggestive of revivification.

A Misapprehension.—Constantly we are told that the horse is a vanishing factor in modern life. He is going, going,—soon will be gone. Here are the facts: In 1900 there were 21,203,901 horses in the United States. By the census report of 1910 there were 23,813,850, a gain of 1,609,949. In 1900 there were 3,438,523 mules in the United States. In 1910 there were 4,453,943, a gain of 1,015,420. The total value of the horses, mules and colts reaches the sum of $2,598,699,908, leaving only $2,296,248,874 as the total value of all other live-stock, including cattle, sheep, swine, asses, burros, goats, poultry and bees. While cattle increased in total value during the decade less than 1 per cent., horses and colts increased in total value 132 per cent., and mules and colts 166 per cent. We think the humane societies would better not go out of business right away. —(*Our Dumb Animals.*)

MUNICIPAL MEAT INSPECTION.*

By T. E. Munce, Deputy State Veterinarian, Harrisburg, Pa.

Some of you may wonder, especially those of you who are engaged in general practice, why the question of meat inspection is given such a prominent place each year on our program. There are various reasons for keeping the subject before the members and having matters pertaining thereto discussed at our meetings. It is now generally recognized that in order for an individual to properly fill the position of meat inspector (I refer now to a position of independent responsibility) he should be a qualified veterinarian. If then it is necessary, in order to properly fill such a position, to have, among other things, adequate veterinary training, the subject of meat inspection should be a part of our program.

This is not, however, to my mind, the most important reason for keeping the subject alive by frequent discussions at the meetings. If meat inspection, in order to be properly carried on, comes within the jurisdiction of veterinarians, then, most assuredly, they should see that the consuming public in their respective localities is adequately safeguarded against unwholesome meats. This, like all other similar matters, can best be done—in fact, can only be done—by carefully educating the public so that the need of inspection may be made manifest.

The State meat inspection service has been trying, in so far as it is possible, to co-operate with the Federal meat inspection service. In fact, broadly speaking, we might regard the State inspection an auxiliary to the Federal inspection. A number of our municipalities have provided for local meat inspection, some of which are independent of the State, while others have adopted

* Presented to the Pennsylvania State Veterinary Medical Association, March 6, 1912, at Philadelphia.

ordinances in accordance with what is known as the State meat inspection law of 1907, and are co-operating with the State Live-stock Sanitary Board. We are of the opinion that in order to render the best possible service in protecting the public against diseased and unwholesome meats the various local municipal meat inspection services should co-operate with and be an auxiliary to the State service, just as the State is to the Federal service. Working, then, with this end in view, the question arises, How are we going to proceed so that the system will be uniform and all localities of the State adequately protected? In our judgment, the only practical solution is for the cities and towns to provide local inspection with municipal slaughter houses. This is not by any means a new scheme, but, on the other hand, it has been tried out, not only in this country, but in various countries of the Old World, and with great success, not only from a financial point of view, but other ways.

Unfortunately, the butchers, in some localities at least, have been unfairly dealt with by the local officials adopting ordinances and regulations which forbid the erection and operation of a slaughter house within the borough or city limits. On account of this, the only thing for the butcher to do is to go outside, away from the city water and sewer connection, both of which are very necessary, and build his slaughter house. In such cases he usually selects a site some backwoods, perhaps near a spring, where he can get enough water to wash the carcass, but seldom sufficient to properly cleanse the slaughter room. Again, he has to contend with the question of proper drainage and disposal of his refuse and offal. Operating under such conditions, there is always a temptation to keep hogs to eat the offal and refuse, which is not only unsanitary, but is expensive in a great many cases, on account of the hogs developing such diseases as cholera, tuberculosis, etc. It is not uncommon to find in offal-fed hogs echinococcus cysts in the liver, to say nothing of other serious conditions traceable to this filthy practice. Experience has shown that if clean, wholesome meats and meat products are to be produced and placed upon the market, it is absolutely necessary for the

slaughtering to be done and the meats prepared and stored under favorable conditions. In other words, not a building located in the rural districts and in a ravine or hollow, with practically no water and drainage, and often, too, on leased land, but treat the abattoir the same as any respectable and important municipal utility—issue the owners a permit to build within the city or town, so that they can get safe and proper sewer connection and within reach of the city water line, both of which are indispensable—then require them to keep the establishment and surroundings clean. Our records show that the rural slaughter houses are, as a whole, more unsanitary than those located in the cities and boroughs. The reason being as stated above—lack of proper facilities for keeping them clean. By all means be consistent in the matter and do not expect or demand from the butcher a wholesome product which he has been forced to prepare under unfavorable conditions.

In order to give those of you who are not familiar with what the cities of other countries are doing in regard to municipal slaughter houses, I quote, in part, from a report from Amsterdam, Holland: Consul F. M. Mahin says that a municipal abattoir is not only feasible, but absolutely necessary, and that the city abattoir is one of the largest and most important enterprises. The buildings comprise two slaughter houses for cattle, a slaughter house for hogs and one for horses, three stables for cattle and three each for hogs and horses. There are other buildings also for the treatment of waste and hog hair, blood drying, tripe boiling, a forge, the sterilization of meat, a laboratory for microscopic examination and an administration office. In addition to the above, a space is provided for a cattle market, café and stables for horses and vehicles. The latter would not be regarded as necessary in this country and could be dispensed with. The total surface covered by the buildings and cattle market exceeds 100,000 square yards. All the slaughtering of animals for food in Amsterdam must be done there. Some meat slaughtered elsewhere is brought to the city, but it must be examined at the city slaughter house and be stamped the same as meat slaughtered

there. All condemned meat is rendered into fertilizer, as is required in this country. The slaughtering is not done by the city, but by the livestock owners, who pay for the use of the abattoir sixty-four (64) cents for each steer, cow or horse; thirty-four (34) cents for each fat calf or hog, and ten (10) cents for each sheep, young calf or goat. A charge is made of about one-fifth (1/5) of a cent a pound for beef and pork not slaughtered there and about one-tenth (1/10) of a cent a pound for other meat. The meat is carried from the abattoir to the shops in specially arranged wagons. About 151,000 animals are slaughtered annually. The capital invested in the grounds and building of this abattoir is $1,200,000. The operating expenses were about $50,000 and the total receipts about $89,000—a profit of $39,000.

Berne, Switzerland, last summer decided to build a new municipal abattoir to cost several hundred thousand dollars, advertising for bids. This shows what faith the people of that city have in such an enterprise.

Passing eastward, we find ourselves placed in an even more ridiculous predicament, when we learn of the municipal abattoir at Shanghai, China, with its concrete floors and brick walls, and which is kept scrupulously clean at all times. The cost of slaughtering here is: Ox, eighty-five (85) cents; sheep, ten (10) cents; calf, twenty-five (25) cents, and pig, twenty (20) cents, with an additional charge from five to twenty cents if killed outside of regular hours.

Jumping from China to South America, we find Uruguay proposes passing a law authorizing the issuing of bonds to build and operate a State abattoir. Working homeward, we next hear that the health officials of Toronto, Canada, are agitating the erection of a municipal abattoir, so that the slaughtering may be centralized. The Board of Health of Berlin, Ontario, Canada, has taken steps to have erected a public abattoir and to require all meats to be inspected. If time would permit, I might cite many more cities in other countries that have adopted this plan as the only feasible solution for handling this important question.

I am delighted to be able to say here to-day that a few of

what certainly must be regarded as more progressive towns and cities of our own country have come to realize that to continue to permit the slaughter of animals under unfavorable conditions, such as is being done in many places in every State in the Union, is to sanction a system that is considered obsolete in most foreign countries, and at the same time gives encouragement to methods which jeopardize the health of a large portion of our people.

The first town in the United States of which we have knowledge of having provided a municipal slaughter house is Paris, Tex., in 1909. The plant cost about $10,000 and was met by issuing bonds. It is the purpose of the officials to run the plant without a profit. The charges for slaughtering are as follows: Cattle, $1.25 each; hogs, sheep and calves, 75 cents; the livestock owner receiving the hide, liver, head, caul, tail and brain. The offal, blood, etc., goes to the city. The charge includes refrigeration for a period of five days, and delivery is made to the local shops free of charge. In case the carcass remains over five days, a charge of 10 cents is made for each additional day. The inspector (veterinarian) receives $1,200 a year salary.

I had hoped to be able to give you an up-to-date statement showing the financial side of this proposition, as well as that of those I am about to refer to, but on account of conditions arising over which I had no control I was unable to write for same in time to include them in this paper.

The first six months of operation, however, showed receipts to average $701 per month, with the average monthly expenses of $562, giving an average profit per month of $139. We understand that since then the receipts pay the running expenses of the plant, the interest on the bonds, and also provide a sinking fund to meet the bonds when they mature.

Beaumont, another up-to-date town in the same State, according to recent advices, has taken steps to supply a public abattoir. Still another southwestern city that has led the way in municipal progress along this line is Little Rock, Ark. Here an arrangement has been made with the owners, we understand, of two establishments, one located on the west end of the city, the other

on the east side, for the slaughter of all animals and preparation of meats sold within the city, Federal-inspected meat excepted.

In addition to the cities named, the officials of the following places have taken steps to supply municipal abattoir facilities, building and owning the plant or arranging with private owners for the use of the plant in every instance; hence the animals must be slaughtered under municipal inspection: Demopolis and Birmingham, Ala.; Knoxville and Nashville ($75,000), Tenn.; Louisville, Ky.; Charlestown ($10,000) and Columbia ($40,000), S. C.; New Orleans, La.; Bridgeport, Conn., and Buffalo, N. Y.

There may be other towns which have made similar provisions; the above, however, comprises all places of which we have knowledge at this time. While we regret exceedingly that the name of a Pennsylvania town is not on the roll of honor, yet we need not be entirely ashamed or disheartened, for the reason that a number of our municipalities have established a system of meat inspection, some of which are exceptionally good.

During the past year the Borough of Bristol has adopted an ordinance which requires all meats sold within the borough to be inspected and stamped by either a Federal, State or local inspector. This ordinance comes nearer than any other in the State, of which we have knowledge, to the municipal abattoir requirements. (We have reason to feel that the time is not far distant when we shall see in this enterprising town a public abattoir, and one of which we will all be proud.) Recent unofficial advices indicate that Philadelphia, the metropolis of our great State, will before long be supplied with public abattoirs, at which all slaughtering will be done under inspection.

Meat inspection in Pennsylvania, especially municipal inspection, has been, as you all know, going on for some years, yet it is but in its infancy. We are just beginning to become awakened to its possibilities, and those who have given the subject attention realize that the next few years are bound to bring marked improvement, especially with reference to facilities for carrying on municipal inspection.

The municipal owned or controlled slaughter house has come to stay. It has been proven a success, when viewed from all sides interested. It has been demonstrated that by assembling all animals to be slaughtered at a central point, or in the case of a large city, several convenient points, where adequate facilities are provided that the slaughtering can be done and the necessary refrigeration furnished with less expense to the butcher than were each butcher to undertake to furnish his own facilities. In addition to being a convenience and financial saving to the butchers, the public abattoir, from a sanitary point of view, is a success as much as it is a necessity, to say nothing of the enterprise being a safe municipal business proposition.

Public sentiment must be aroused and the poeple made to understand this important question, especially the officials of our local municipalities, and the many economic and hygienic advantages of such a system for handling local inspection pointed out, so that the more safe and up-to-date methods may be installed. This done, it will be but a surprisingly short time until many of our Pennsylvania towns will have a place on the roll of honor.

Dr. W. G. Clark, Marinette, Wis., says: "The Review gets better with every number. Can't afford to miss a number; have a complete bound file from 1891. With best wishes, etc."

Young and Up-to-Date After Forty Years in Practice Dr. D. D. Keller, the veteran practitioner of veterinary medicine, Salem, Ore., wrote when rnewing his subscription to the Review: "Please continue my subscription to the American Veterinary Review for another year. Many new publications, and quite worthy ones too, coming out, but none of them nearly reaches the American Veterinary Review. How any veter inarian can hope to keep anywhere nearly abreast of the times and not read the Review I cannot figure out. I have followed my profession for nearly forty years and expect to continue it as long as I live; and as long as I am permitted to practice, I want to know all the new and best things and put them into practice; for although I am old in body, I may be young and up-to-date in mind."

OOPHORECTOMY IN THE BITCH.*

H. E. KINGMAN, B.S., M.D.V., D.V.S., PROFESSOR OF SURGERY, DIVISION OF VETERINARY MEDICINE, COLORADO STATE AGRICULTURAL COLLEGE, FORT COLLINS, COLO.

Every surgeon has his own methods and technique, and as he operates will change in detail from one way to another as he finds opportunities to make his work more simple, rapid or efficient.

It is the object of this paper to bring out one or two steps in this operation that are not commonly mentioned in our literature.

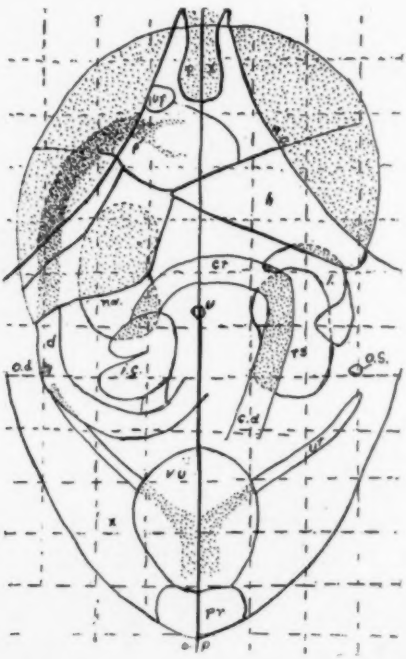
Preparation of the Patient.—When the bitch enters the hospital she is placed upon the table and the seat of operation washed with green soap and water, the hair shaved and a pack saturated in a 1/1,000 solution of bichloride is held in place by a many-tailed bandage. She is then placed in her cage until the next day.

An hour and a half before the operation she is given two tablets of H. M. C. No. 1 (Abbot's). Each contains ¼ gr. of morphine, 1/1,000 gr. of hyoscine and 1/67 gr. of cactin.

She is then allowed to vomit and micturate. If the latter does not take place it is advisable to pass a catheter, since the bladder when distended lies in the same region as the ovaries and horns of the uterus, but when empty it occupies a very small space back toward the pelvis and well out of the way. Half an hour before the operation one or two more tablets of H. M. C., depending upon the size of the bitch, should be administered. If necessary, ether may be used to complete the anesthesia. This method is practical and easily carried out. It must not be conveyed, however, that all should adhere to some such method under all circumstances. Sometimes a man will bring an animal to the hospital and wish to take her away as soon as possible; perhaps he

* Presented at the Meeting of the Colorado State Veterinary Medical Association, Denver, Colo., January 18, 1912.

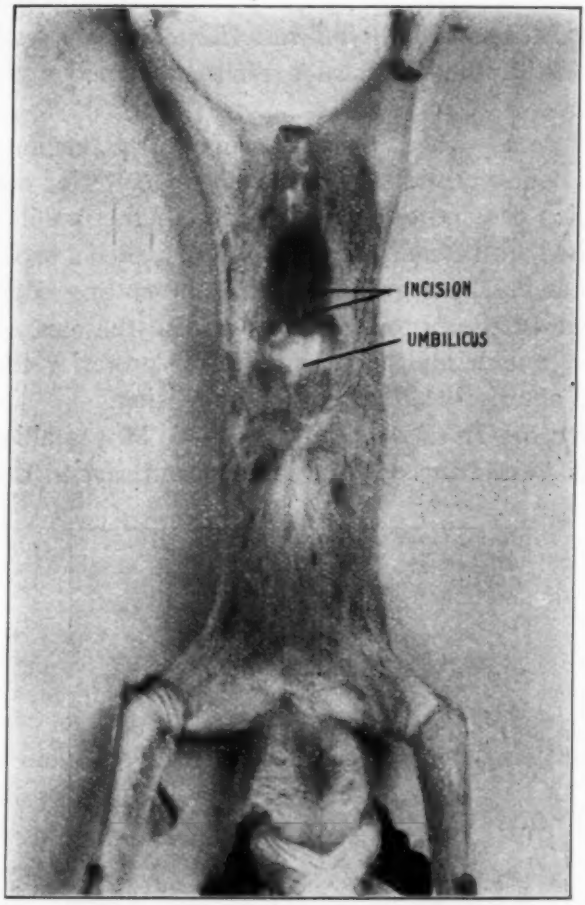
has driven a long way and cannot make an extra trip for the bitch. In such a case ether may be used as an anesthetic, or one large dose of H. M. C. (4 to 5 tablets of No. 1) may be given, and the operation performed at once, and the animal dismissed. But, if possible, even more care than is here outlined should be practiced.



Preparation of the Field.—The bitch should now be ready for the table. It is taken for granted that the field has already been partially prepared. All that is necessary now is to remove the bichloride pack and paint the field with a 1 per cent. solution of iodine in gasoline or a 5 per cent. tincture of iodine. A very convenient and effective method of keeping the field and operator's hands from contamination is to place a small sheet of muslin, that has been boiled with the instruments, over the bitch and tie it to the side of the table; a small hole is then cut over the proposed incision. This also protects the horn from infection, which may be carried back into the abdomen. While this routine

seems tedious, in practice it is not; the time consumed is infinitesimal and the protection is well worth the trouble.

The operator's hands should be scrubbed with hot water and green soap and dried on a sterile towel. Rubber gloves may be



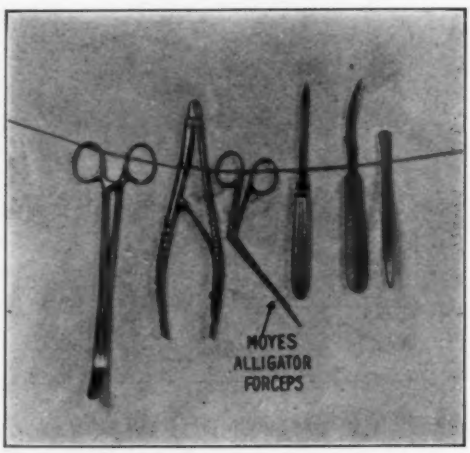
worn—in fact, mark the surgeon who takes a pride in his work. Further time will not be taken here for the preparation of the operators' hands, but the reader is referred to an article in the AMERICAN VETERINARY REVIEW, August, 1911, by Dr. Stowder.

Topographical Anatomy.—The surgical landmarks are the umbilical scar and the median line. The tissues encountered are

the skin, linea alba, recti muscles and peritoneum. There is a small cutaneous vein, but no arteries. The omentum covers part of the viscera in this region, and may be bothersome in fat animals. The ovaries are attached to the sublumbar region on either side of the median line and about 25 millimeters posterior to a plane passed through the umbilicus. The diagram made by Dr. O. Charnock Bradley gives at a glance the topography of the region.

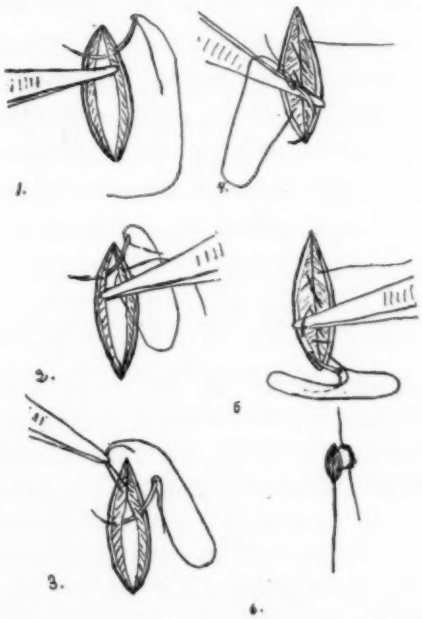
The Incision.—The incision is made on the median line, and should be about 2 centimeters in length, the anterior commissure being from 3 to 4 centimeters posterior to the umbilicus. The skin is incised with a sharp-pointed bistoury, then a probe-pointed bistoury that has been ground so that the cutting edge extends to the point of the bistoury, as shown in the cut, is pushed through the muscle and peritoneum at the posterior commissure and carried anteriorly as far as the skin incision.

Securing the Horn of the Uterus.—A Moyes alligator forceps is then passed through the incision and carried close to the



abdominal wall toward the operator's left until the sublumbar region is reached, the forceps are opened and the horn of the uterus grasped and pulled through the incision. It takes some practice before the operator can tell by the tension whether or

not he has engaged the cornua. In fat animals the forceps may grasp the broad ligament, which may be followed to the horn. It is an easy matter now to draw the left ovary through the opening and ablate it, first applying compression forceps. The forequarters should now be lifted so as to flex the body ventrally and the horn followed posteriorly until the body of the uterus is met, when the other cornua may be grasped. The right ovary may be



treated in the same manner as the left, and both horns ligated and severed at any place convenient to the operator.

Suturing the Wound.—No. 1 catgut on a small, full-curved needle is used. The method is known as a continuous mattress suture, and is applied as shown by the following illustrations: The thumb forceps lifting the peritoneum on the right side away from the viscera, and the needle is passed through the muscle and peritoneum, Fig. 1; the peritoneum of the left side is then lifted and the needle passed through the peritoneum and muscle from beneath, Fig. 2; the suture is then grasped with the fingers or forceps, as in Fig. 3, drawing the peritoneal surfaces together

and lifting them so that the needle may pass through both at the same time. This is repeated until the peritoneal wound is closed by a simple continuous suture. The skin is then grasped and held, as in Fig. 4, while a subcutaneous suture is placed in it. This suture is then carried continuously from one side to the other until the skin wound is closed. The two ends of the suture are united by a surgeon's knot, as in Fig. 6. If No. 1 gut is used, the knot should be small enough to be completely hidden.

After-treatment.—An aseptic pack of gauze, with or without a boric acid dressing, should be held over the wound by a many-tailed bandage. The bitch will lie quietly for the rest of the day and be as bright as ever the next morning. Union by first intention will result, and the gut suture is readily absorbed, so that there is not the bother of removing it, as with silk or linen.

PRESIDENT BRENTON of the American Veterinary Medical Association exercised his usual good judgment in his appointment of Professor Septimus Sisson, anatomist at the College of Veterinary Medicine of the Ohio State University, as chairman of the committee on revision of anatomical nomenclature. The revision is much to be desired, as the present condition in regard to our anatomical terminology is almost chaotic. The undertaking will be difficult and laborious, and must be done with great care in order to produce a nomenclature which merits general acceptance. Professor Sisson has demonstrated his unusual ability and perseverence in the production of *Sisson's Veterinary Anatomy*, which has met with universal approval, and acceptance at veterinary schools, and he expects to further broaden his knowledge on the subject by consulting with his British colleagues during a sojourn in Europe the coming summer. We congratulate the A. V. M. A. on Dr. Brenton's appointment.

DR. D. A. GORMAN, of Kittanning, Pa., in renewing his subscription to the REVIEW says of it: "One of the living issues of our profession—long may it live."

CORNEAL ULCERATION.

By G. J. Collins, D.V.S., Ass't State Veterinarian, West Point, Neb.

An infiltration, followed by suppuration and loss of substance of the cornea. Is of common occurrence.

Etiology.—Infection (streptococci, staphylococci pneumococci), debilitating diseases, chronic conjunctivitis, secretion of dacryocystitis. (1) I find traumatism the usual causative factor, oat, wheat and rye hulls; injury by baling wire in hay, by barbs on fence, nails in stalls or manger, coarse straw, weeds, etc. Some by being struck in the eye with whip, halter rope, etc. Also foreign bodies are quite often found. (2) Trachoma, trichiasis. (3) Defective nutrition of the cornea, glaucoma, paralysis of trigeminus, marasmus. (4) Infection, subsequent to operations. (5) Phlyctenular keratitis. (6) Infectious conjunctivitis of herbivora. (7) Toxins. (8) Canine distemper in dogs. (9) Variola.

Clinical Forms.—The nomenclature of ulcers on the cornea is quite extensive and is founded upon peculiarities and symptoms.

(1) Simple ulcer, small, superficial, slight or severe irritation without a tendency to perforation.

(2) Deep ulcer, extends to deeper layers and has a tendency to perforation, with marked symptoms of iritis and hypopyon.

There are many other forms, but not any more important from a therapeutical or surgical view than the former; suffice to name them: *Rodent, serpent, marginal ring, transparent, dendriform, herpetic, abscessal* and *catarrhal ulcers.*

Symptoms.—The diagnosis of corneal ulceration, of course, is arrived at by the objective symptoms. The subjective symp-

toms are pain and photophobia. Lacrymation and blepharospasm is what usually attracts the attention of the owner or attendant, and the animal is brought to the veterinarian for inspection and treatment. Constant closure of the eyelids, associated with partial opacity of cornea and myosis, is strongly indicative of acute corneal ulceration, provided there is no evidence of a corneal puncture, with infection of cornea or aqueous humor.

The ulcer begins with a grayish or grayish-yellow infiltration of a circumscribed portion of the cornea. This is later accompanied by suppuration, and the superficial layers are cast off, and this is the beginning of the ulcer. Pathologists call it a molecular disintegration; anyhow, it is a loss of substance. Sometimes the ulceration is rapid and other times the process is prolonged (chronic). It may extend in area or depth, or both. May advance in one direction, or in two or three directions, or all around the circumference. Sometimes heals on one side and advances on the other (serpiginous ulcer). There is almost invariably a more or less grayish infiltration of the cornea immediately surrounding the ulcer, with constant ciliary injection.

If the ulcer is superficial, the diseased or destroyed portion will be cast off in a few days, the infiltrated border will commence to clear, and repair set in. This is accompanied by the appearance of capillaries or blood vessels, which arise or come from the limbus.

The ulcerative process terminates in cicatrization. If there is difficulty in the determination of an ulcer or ulcers, instill a few drops of a two per cent. solution of fluorescein, which stains the ulcer or ulcers and infiltrated area green.

Deep ulcers have more pronounced symptoms and the complications and sequela more serious. There may be, and there usually is, more or less conjunctivitis, iritis and hypopyon.

Hypopyon is a collection of pus in anterior chamber, usually seen at bottom of anterior chamber, and is not derived from ulcer, but is an exudation derived from the iritis or iridocyclitis; in other words, a coagulated exudate. It may partially or completely fill the anterior chamber and remain fluid or semi-

solid. Quite often all there can be seen is a corneal opacity and the ulcer, or ulcers are not detected unless a solution of fluorescein or some other coloring agent be employed. A superficial ulcer usually leaves no permanent cicatrix; deep ulcers leave permanent cicatrices.

Perforation of the cornea, with infection of aqueous humor and iris, is quite common and very serious, and requires prompt surgical or therapeutical treatment.

Perforation may be spontaneous, or it may be preceded by the protrusion of Descemet's membrane through the ulcer simulating a small vesicle. Sometimes the iris protrudes; is carried by the aqueous humor during its escape. Eye feels soft and the cornea wrinkled; in other words, anterior chamber collapses. There is obliteration of the anterior chamber, with apposition of the cornea, iris and capsule of crystalline lens.

After cicatrization of the ulcer, the iris may regain its normal position. But frequently the prolapsed iris adheres to the corneal cicatrix, and this constitutes anterior synechia. The adhesion of the iris may be partial and the pupil misshaped on account of it, or it may be complete, especially at margin of pupil, causing exclusion and occlusion of the pupil.

Dislocation of the lens at the time of perforation is quite common. It happens most frequently, I believe, in enzootic conjunctivitis of cattle, or, at least, this has been my experience. Sometimes quite a number in a small herd will lose their vision in this way. The lens is dislocated antero-inferiorly in aqueous chamber; in fact, it quite often protrudes through the perforation. Frequently, after cicatrization of the perforation and the anterior chamber has been re-established, the lens recedes and regains its normal position. However, there is often a proliferation of the subcapsular epithelium, which has become irritated by the pressure of the lens upon the cornea, forming a white spot upon its anterior surface, known as anterior capsular cataract.

Iridocyclitis and panophthalmitis are serious complications that often follow perforation, especially if the suppurative process be a virulent one. Occasionally, but not often, a corneal

fistula will remain after perforation, which exposes the eye to subsequent serious inflammation.

Treatment.—(1) Treatment of pre-existing local conditions, (2) local treatment of the ulcerative process, (3) constitutional.

Treatment of pre-existing local conditions consists in removing foreign bodies, if there be any, and relieving other local irritating conditions. Suppurative dacryocystitis or conjunctivitis must receive attention prior to treatment of the ulcerous process.

Local treatment consists of antiseptic lotions—cocaine, atropine and eserine solutions; cauterization, curetting, paracentesis of cornea and division of ulcer; hot and cold compresses.

Antisepsis.—Antiseptic solutions, such as sodium chloride, boric acid, corrosive sublimate, chinosol, and as good if not better than any of the above, germicidal discs. Iodoform, sprinkled upon the cornea, is good. Some practitioners use the ointment, but I don't like ointments for acute diseases of the eye. Others inject solutions of corrosive sublimate, argyrol or protargol, formalin and sodium chloride subconjunctivally. This I never tried.

To prevent spreading, either the curette or actual cautery may be employed. But we like chemical or medicinal cauterization better—a stick of silver nitrate or cupric sulphate, tincture of iodine or phenol—applied by means of a swab or cotton. We cauterize every other day until healing is manifested. Along with this treatment antiseptic and astringent solutions are used. The antiseptic or astringent lotion used depending on which caustic is employed in cauterization.

Paracentesis of the cornea is valuable when the intraocular pressure is excessive or the aqueous humor infected. This should be done with a paracentesis trocar, but a keratome or Graefe cataract knife will do.

The animal should be well secured before attempting this operation, or serious injury to eye may result. Casting or the stanchion will suffice, but the operating table is far superior.

Either local or general anæsthesia may be employed. We give two or three ounces of chloral hydrate, depending on size;

apply a ten per cent. solution of cocaine locally and wait until the patient is semi-stupid, then put on the table and secure.

A 1/1,000 corrosive sublimate cotton compress should be put over the eye and immediate surrounding integument a few hours before operation.

After thorough disinfection of the conjunctival sac and cauterization of ulcer or ulcers, the conjunctiva just below and a little to the left of the lower margin of the cornea is grasped with the fixation forceps, to hold the eyeball in position; the paracentesis trocar is passed perpendicularly through the cornea near the limbus at the lower margin, unless the situation of the ulcer requires another site. As soon as its point reaches the anterior chamber the handle is depressed and the trocar or knife is pushed in horizontally, avoiding wounding the iris or lens, until the incision is fully 3 to 6 mm. long. The instrument should be withdrawn slowly and pressure should be applied upon cornea, so as to evacuate the contents of the aqueous chamber gradually.

Frequently, when the infection seems very virulent, the corneal incision will have to be opened daily until the ulcer heals. We have in a few cases irrigated the aqueous chamber with a normal saline solution and others with 1/5,000 corrosive sublimate or germicidal disc solution. This isn't necessary, only in the virulent cases.

Iodoform can now be dusted in the eye and a protective dressing applied. Atropine, sometimes eserine, must be used as indicated by position of iris and location of ulcer. Atropine relieves the irritation. After the operation we usually instill a solution of atropine and apply a cotton compress soaked in a 1/1,000 corrosive sublimate solution.

The subsequent treatment consists of the installation of antiseptic astringent lotion—atropine or eserine, as indicated—and a protective dressing or compress until the eye has completely healed. After the healing process is well established, ointment of the yellow oxide of mercury is used to hasten cicatrization and to clear up the cornea.

Division or incision of the ulcer is obsolete.

Constitutional treatment should be employed when the ulceration is due to an infective or constitutional disease or when the general condition is below par. In the latter tonics are indicated, and in the former medicines that are commonly used in such diseases.

"I CAN'T afford to miss a single issue."—(*W. D. Bennett*, Ovid, N. Y.)

Dr. C. H. CASE, Akron, Ohio, says: "The most for the least money is all I have to say."

Dr. HARRY W. STEDMAN, Meeker, Colo., says: I am gladly sending you my check for the REVIEW for the coming year. I could not, and would not, think of getting along without your valuable periodical.

Two hundred veterinarians and over four hundred visitors and students were in attendance at the Kansas City Meeting of the Missouri Valley Veterinary Medical Association, January 30 to February 2, inclusive, and Secretary Simpson's account of it on page 115 of this issue records an immense amount of work accomplished.

AT the recent meeting of the Ohio State Veterinary Medical Association Prof. Louis P. Cook, of the Cincinnati Veterinary College, demonstrated the technique for "*Intraspinal Injections*" in the horse, and suggested the administration of tetanus antitoxin in this way, for the cure of severe tetanus cases. Most remarkable results have been obtained by Dr. Cook from very small doses of the antitoxin administered in this way in a few tetanus cases that appeared absolutely hopeless.

THE following from the New York *Tribune* would seem to speak highly of the food-stuffs used to put on the flesh, although the Montana air may be responsible in large measure for the frame: "Billings, Mont., March 12—What is claimed to be the largest range steer ever sent to market has been shipped to Chicago from here. The animal weighs more than 2,500 pounds and brought $200, which is said to be a record price for a range steer. The animal was fattened on alfalfa, sugar beet pulp and syrup."

THE CAUSE AND THE RELIEF OF THE DYSPNŒA RESULTING FROM LARYNGEAL HEMIPLEGIA IN THE HORSE (ROARING).*

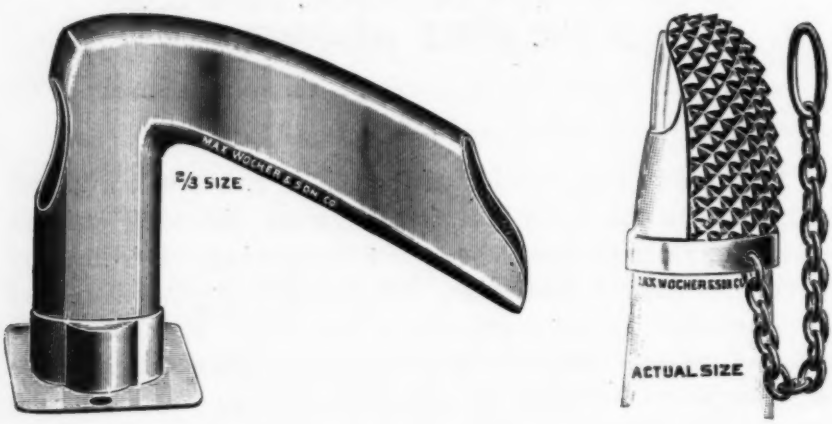
By Louis P. Cook, D.V.S., Cincinnati Veterinary College.

External to each vocal cord there is in the larynx a lateral ventricle. In the horse this air sack, when distended, is large enough to accommodate the egg of a bantam hen. It is lined by a very thin mucous membrane. Functionally, the sack is related to the production and regulation of the voice. It is dilated by certain laryngeal muscles and contracted by others, all of which are attached to and move the arytenoid cartilage. In the normal larynx, with all the muscles performing their functions, the ventricle does not remain dilated during the respiratory movements.

Now in the "roarer" there is a paralysis of certain of the laryngeal muscles, which, under normal conditions, force the air out of the ventricle of the left side of the larynx, this paralysis resulting from some pathological condition of the motor nerve of such muscles, namely, the left recurrent laryngeal. Whenever an animal so affected is put to any exertion and caused to breathe deeply, the ventricle of the affected side fills with air and balloons, and remains so for a time, in consequence of the paralyzed muscles being unable to force the air out. This ballooning of the lateral ventricle closes, or almost closes, the narrow glottis, dyspnœa or even asphyxiation resulting. If an animal in such respiratory distress is allowed to rest, the dyspnœa soon subsides. *The dyspnoea in the "roarer," then, is due solely to the distension of the left lateral ventricle,* a condition that is possible only

* Read before the Ohio State Veterinary Medical Association January 18, 1912. Following the reading of the paper the operation described was performed by the writer.

when certain laryngeal muscles are paralyzed. Now to effect a cure for this condition it is only necessary to obliterate the ventricle of the affected side, and to do this we have only to remove the thin mucous lining. When this is done the denuded walls of the ventricle soon grow together. The remedy for this common



disease of the horse is, therefore, simple, and its application is also simple. The removal of the mucous lining can be done easily, as follows:

Inject a dram or so of an aqueous solution containing about 1 in 4,000 of adrenalin and 4 per cent. cocaine under the skin directly over the triangular space between the cricoid and thyroid cartilages. The cartilaginous borders of this space can be distinctly felt through the skin and thin muscular tissue. When local anesthesia is obtained make a longitudinal incision about 2 inches long in the median line through the skin. Then cut through the crico-thyroid membrane from the body of the thyroid cartilage anteriorly to the cricoid cartilage posteriorly. This will permit the index finger to be passed into the larynx and into the ventricle of the affected left side. With the finger of one hand in the ventricle, pass a long and slightly curved nozzle of a small syringe along the finger in the ventricle, which will guide it, and inject about a dram of the same cocaine-adrenalin solution into

the ventricle. This will in a few minutes produce both anesthesia and anemia in the walls of the ventricle. Next place upon the index finger the " thimble curette " and pass it into the ventricle, and by a little gentle scraping lacerate and destroy the thin mucous membrane lining. It is entirely unnecessary to be rough here, but, of course, the mucous lining must be thoroughly scraped. This curetting ends the operation. As after-treatment, little is necessary, but antiseptic attention will, of course, facilitate healing. In some cases an œdema of the glottis develops, and all patients must, therefore, be seen every few hours for the first three or four days. Upon the appearance of dyspnœa a laryngeal breathing tube should be inserted through the crico-thyroid incision. This tube is not needed in every case, and it should only be used when dyspnœa exists. But to be on the safe side, the tube should be kept in during the first three or four nights.

Now this operation can be performed by any veterinarian. It is one of the simplest operations in veterinary surgery. Of course, the merest novice in surgery can cut through the skin and crico-thyroid membrane, and anyone can then introduce the finger

and pass it into the lateral ventricle. This is as simple as passing the finger into one's vest pocket. Nor is any skill required to curette the mucous lining of the ventricle.

It is not necessary to cast the patient in performing this operation; in fact, it can be done easier with the patient on its feet. No assistants are needed. A check-rein will hold the head up. With good cocaine and adrenalin in solution, the operation can be performed painlessly and bloodlessly, and it should not take over three or four minutes to perform it.

In those rare casese where the paralysis is bilateral the mucous

membrane of both ventricles should be removed. This bilateral paralysis can be determined only by operating on the left side first. Failure to obtain full relief from the dyspnœa by this operation indicates that the muscles of the right side are also paralyzed. The second operation on the right ventricle can then be performed in about six weeks after the first operation. If this bilateral laryngeal paralysis were not so extremely rare, it would be advisable to operate on both ventricles at once. The writer has repeatedly done this, and the double operation caused no more inconvenience to the animal than the single one would, and that is practically none in most cases. Strange to say, little soreness results and the patients seldom miss a meal after the operation. They swallow food and water without apparent pain or difficulty.

In the fall of 1909 the writer first called the attention of the veterinary profession to the fact that the dyspnœa in roaring could be permanently relieved by the mere obliteration of the lateral ventricle of the affected side, and that this could be done without dividing any of the cartilages of the larynx. His method of operating at that time necessitated the casting of the patient, but he soon found that the removal of the lining of the ventricle could be more easily done with the patient on its feet. At the Cincinnati Veterinary College about 40 dissecting subjects, a number of which were " roarers," have since been operated on by the writer, and in no case did the ventricle fail to close up, a fact that was determined on post-mortem examination later. Our experience shows that it takes from two to four weeks for this to take place. All " roarers " operated on proved absolutely cured on tests made a month after operation and since.

Of course, this operation is useful only in laryngeal paralysis. It will not relieve the dyspnœa of pulmonary emphysema, etc. The operation is indicated only in uncomplicated cases of laryngeal paralysis. However, in the event of error in diagnosis, the operation can do no harm to the animal. In cases where this extremely simple operation is indicated it guarantees a positive cure within five or six weeks' time.

THERAPEUTIC NOTES.*

By Dr. K. W. Stowder, for Dr. H. Jensen.

Some communities are badly infested with tetanus, and the best forms of prevention and treatment are always of interest. No one doubts the value of antitoxin as a preventive, but some seem to feel a doubt regarding its therapeutic value.

Possibly the best way to look at the matter is this: Thorough cleanliness of all parts about the wound is absolutely necessary, of course. That is, providing it can be found. Open the wound wide, because oxygen is a foe to the growth of the organism. Now take stock of the symptoms. If the animal seems able to move about and is not too stiff, get antitoxin (veterinary) and give it in large doses. Not less than 3,000 units at a time and not less than 10,000 during the first 24 hours. Then watch the animal closely and give several small doses as symptoms seem to demand, in order to keep him relaxed enough to rest and eat. If the wound is cleansed daily and some assistance given until the patient starts to make antitoxin himself, most of them will recover. Large and frequent doses of potassium and sodium bromide in the drinking water are, as a rule, valuable assistants to the control of the symptoms. To those who have not had success I would recommend the use of larger doses, given more frequently, and to watch symptoms closely in regulating the dose.

Good catharsis is valuable, so do not neglect an early use of cathartics.

The use of antitoxin intravenously has been suggested, and.

* Presented to the Semi-annual Meeting of the Missouri Valley Veterinary Medical Association.

theoretically, at least, would seem to be of some avail. Whether or not it is of additional benefit over the subcutaneous method is to me doubtful. The toxin does not necessarily reside in the blood stream, and, in fact, does not do any of its damage while here. But wherever it will meet the soonest and neutralize the quickest and to the best advantage this toxin is the important point. Let us each compare the subcutaneous method with the intravenous application and report for the benefit of all.

Another thought occurs to me while on this tetanus subject, and that is, Is a mule any easier to recover from a well-defined case of tetanus than a horse, or is the reverse true? Is there any noticeable difference as to mule or horse in the severity of symptoms or ease of affording relief?

Occasionally we are all asked to prescribe for those bowel troubles of chickens and usually find that real chicken cholera is the trouble.

Where valuable birds are at stake it is of no little importance to know that some at least can be saved or that it is safe to take birds to shows and not lose them from this chicken cholera by the use of fowl cholera vaccine. This vaccine is not expensive, especially where valuable birds are involved, and in my experience has proven quite reliable. Vaccinated birds, even eating the carcasses of those which died with the disease as controls, seemed healthy as ordinary birds, while unvaccinated ones nearly always died.

These fowl diseases may not be of much general interest, but sometimes one makes a point which later means dollars in other practice by giving assistance when the hens are dying or the valuable breeding stock arrives sick with the cholera after a visit to a poultry show.

Recently a veterinarian and a poultry man together sent me some chickens which had very sore and swollen feet and legs. They gave a history that many birds in that locality had the same trouble and that they, therefore, thought that the trouble must be contagious. After an examination, it was determined that the trouble was "bumble-foot," caused by bruising, which prob-

ably occurs when fowls must jump from high perches on hard ground. Lowering the perches stopped the trouble.

Not much has been written on the subject of alteratives in veterinary practice, and yet each of us feel the need and value highly those good alteratives with which we have come in contact. Potassium iodide is with many so widely used as an alterative that the two words are synonymous. With all due credit to potassium iodide as an alterative, especially in those specific instances with which you are all quite familiar, like actinomycosis, etc., it is not so valuable as some of the vegetable alteratives in many other instances.

One of the most valuable of the vegetable alteratives which is available to correct perverted metabolism, especially when accompanied by rise of temperature, or, in other words, we might say, as a corrective in acute conditions, is Echinacea augustifolia. This plant grows in central and southern United States and is obtainable in either the powder or as the fluid extract. The most convenient form is the latter, to my notion, as it is standardized and the dose easily regulated.

My earliest acquaintance with the drug was when a fellow practitioner of human medicine prescribed it in a case of typhoid fever wherein the symptoms, to him, indicated grave danger of infective peritonitis. Too many of my cases of peritonitis, acute lymphangitis and infection of serious cavities, as open joints, etc., had been tardy in response to my usual procedure, hence I decided to give echinacea a trial. Its action as an eliminant is manifest only as a diaphoretic. Appetite seems to increase, and digestion surely improves.

In cases of infected joints, infected peritoneum and acute or chronic infections of serous cavities give echinacea a trial. Give it a chance. Use it as early as your ability will permit you to see impending symptoms of peritonitis, etc., coming, and you will be pleased. It will lower temperature, increase appetite and nutrition and increase elimination. For an average-sized animal 10 to 15 c.c. three times daily for two or three days are usually sufficient, but it can be given over a longer period and no danger

result. The best way is to slowly withdraw the drug as the symptoms abate.

If an old case of " jack sore " or summer sore is presented to you or a similar case of impoverished blood comes in, try this drug as an internal treatment, as well as a moist dressing of the fluid extract to the wound. Some cases which have refused to respond to other treatment have come along nicely after a few days of such treatment in my experience.

The common poke root and poke berry of the Mississippi Valley, or, more correctly, the Phytolacca decandra, is looked upon by many as a deadly poison, and yet birds eat freely of the berries and men can take large doses of the decoction of the root or eat the berries and suffer nothing but its emetic effect and feel afterward a rejuvenation of body, due to its alterative effect upon the blood.

The valuable application of this drug is in cases of infective lymphangitis and infective mastitis, especially in mares and cows. In cases of septicemia and pyemia, cellulitis or of multiple abscess formation it is valuable, but not so valuable in peritonitis and infections of serous cavities. Why? Probably because it seems to have a more specific action upon the parenchymatous tissues. This is why it is so valuable in mastitis, and here is its true sphere. In acute mastitis massage into the udder large quantities of phenol and gum camphor which have been triturated togther and give internally 4 to 6 c.c. of fluid extract of phytolacca three times daily. As a rule, response is quick and quite satisfactory, especially among cows which are heavy milkers, and these are, as a rule, the hard cases of mastitis we deal with. It is fine internal treatment in cases of cellulitis or cases of multiple abscess formation in the nature of acne.

A MOST interesting meeting of the Veterinary Association of Manitoba was held at the city of Brandon last month, as will be seen by Secretary Torrance's report of it on page 119 of this issue of the REVIEW.

CYSTIC OVARIES AND STERILITY.*

By Edw. A. Cahill, V.M.D., Canonsburg, Pa.

There is probably no part of veterinary medicine which is so much abused and which offers more opportunities for quackery than that of sterility. The ordinary layman probably knows less of the female genitalia than of any other part of the body. To him the whole series of changes that occur in the female, from the time of copulation to that of parturition, is a deep mystery, and one which few of our clients feel capable of penetrating or understanding. As a result of this and the frequency of sterility from a diversity of causes, there is a strong demand for remedies to overcome sterility. The result is that the market is flooded with nostrums and patent medicines to cure sterility. These vary fro mcolored and sweetened water to canthrides. We veterinarians, of course, know well that the majority of them are absolutely worthless, yet we seldom stop to realize that we ourselves are partly to blame for this condition. This subject is given very little consideration in our older text books, and many of us had little or no instruction in it during our collegiate course. We have a tendency to fall into a rut when treating this malady to the exclusion of newer treatments. In this way we unconsciously help the cause of the charlatan and worthless patent medicine vender. If we treat sterility intelligently and with a degree of success, it will lessen this quackery, add very largely to our prestige and add many dollars to our yearly income.

In considering sterility, I do not intend to make a long review of all its phases. I assume that all present have an intimate knowledge of embryology and obstetrics from conception to delivery, including its physiology and pathology. Consequently, I

* Read before the Western Pennsylvania Veterinary Medical Association, Pittsburgh, February 15, 1912.

will not even mention most of the causes, such as malformations, diseases of the genitalia of both sexes, etc. I will consider only two conditions, occlusion of the os uteri and cystic ovaries. It is upon these two subjects that most of us are losing many opportunities.

Occlusion of the Os Uteri.—All of us who practice in a breeding district will recognize this as embracing a very large percentage of the cases which have been previously diagnosed by our client. Many of us, in a careless examination, give the same diagnosis; but do we realize that this condition practically never exists? A short résumé of our anatomy will remind us that in the cow (which comprises most of our subjects showing this condition) the mucous membranes of the os uteri are in longitudinal folds, as in other animals; in addition to these, there are three transverse folds of mucous membrane, which render the cervical canal firm and exceedingly small. The os, in addition to this, is long and tortuous, very firm and almost cartilaginous in character. During oestrum and coition the os becomes physiologically dilated; at all other times it is so firmly constricted that it is extremely difficult or even impossible to pass one's little finger through it. In normal condition one ought to be able to pass the finest metallic probe through the os; oftentimes even this is impossible, and still the semen is able to gain an entrance. In spite of this, most breeders try to get a finger or even the whole hand through the os, or even into the uterus itself, and, failing in this, the case is pronounced "closure of the womb," and they proceed to operate for a condition which in all probability does not exist. This is done in a variety of ways, varying from the bougie to the scalpel. Usually this does far more harm than good. It is seldom required; it frequently is the mode of infection and consequent complete obliteration of the os uteri. If not successful, the animal is pronounced unfit for future breeding, and, as far as breeding is concerned, is discarded.

If we would conduct our examination a little farther, we would find that the failure to breed is in most cases not due to any defect of the uterus at all, but to a cystic condition of the

ovaries. In mares this is particularly true in animals of a nervous temperament. In cattle it is seen most frequently in herds which are affected or have been previously affected with contagious abortion or follicular vaginitis. We all know that such herds contain a very large number of sterile animals, and I have found that 90 per cent. of these cases are due to cystic ovaries, and are curable. However, it is seen in isolated cases and in herds not affected with the above-named diseases, and then it is generally due to other infections.

Except for the usual history of sterility, we have very little to guide us, and diagnosis can only be made after a rectal and vaginal examination. One quite common and rather characteristic symptom is that the subject is very frequently a nymphomaniac, and oestrum is very violent.

The ovaries when palpated are generally found to be enlarged to from one to many times their usual size; oftimes they are as large as an egg. We must be careful to distinguish from the congested or hypertrophied ovary. This is quite simple, as the cyst usually stands out quite prominently, like a large nodule.

Several methods of operating are in vogue, but I will only describe the method which I employ, and which I find preferable in many respects to any of the other methods.

The operator will do well to give his nails unusually good care before starting this operation; they should be clipped very close, to avoid injury to the mucous membrane. After thoroughly disinfecting the hands, particularly the one intended for the vagina, the entire surface of both arms is thoroughly lubricated. The left arm is then inserted into the vagina as far as the os, while the right arm is inserted into the rectum. First one ovary is grasped between the fingers of both hands and drawn as far toward the operator as possible; firm and steady pressure is then exerted on each side of the cyst until it is felt to rupture beneath the fingers. The process is then repeated on the opposite ovary, if it be cystic also. A little pain accompanies the operation, but it seldom is of any importance.

Very seldom is any after-treatment required. Occasionally

the animal shows some pain a few hours later, but this generally responds to anodynes. The chief dangers lie in drawing the ovaries too far back, thus tearing them from their attachments, and in wounding the mucous membranes of the vagina or the rectum. These can both be avoided by care.

In from four to nine days after the operation the animal will usually show signs of oestrum, regardless of the time of her last period. If served at this time, she will usually conceive.

In some chronic cases a second or third operation will be required. Our clients are generally willing to pay a good fee for this operation if successfully done; consequently it behooves all of us to perfect our technique and do the operation with such a degree of success that other treatments will become obsolete.

In addition to the above, we frequently find sterility without the cystic condition of the ovaries. We do find the ovary enlarged and hardened. In these conditions we often get excellent results from exerting gentle pressure over the ovary in the form of massage. If our patient is valuable enough to allow a course of this treatment, the massage being applied two or three times a week, the results are very gratifying.

THE Veterinary Medical Association of New York City held the best meeting this season on the evening of March 6. Dr. Eichhorn of the Pathological Division of the B. A. I. gave an excellent discourse on the Complement Fixation Method for the Diagnosis of Glanders—illustrating the same by the presence of his laboratory apparatus. The matter was then discussed by Dr. Karl H. Meyer, Director of the Laboratory of the Pennsylvania State Live Stock Sanitary Board, Philadelphia. It was a rare treat, and was not restricted to Gothemites; as Chief Veterinarian Wills of the New York State Department of Agriculture, Albany, was present, also a number of veterinarians from New Jersey and Connecticut. Dr. Cheston M. Hoskins of Philadelphia was present and made an address in behalf of the Army Veterinary Bill. An appeal in behalf of the bill was sent to the Committee on Military Affairs from the association, signed by the president and secretary.

THE COMPARATIVE VALUE OF SOME VASO-CONSTRICTORS.*

By H. E. Kingman, Colorado State College.

The discussion of vaso-constrictors simmers down to a consideration of the systemic treatment of hemorrhage.

It should first be made clear that the systemic or physiological treatment of hemorrhage is only resorted to when the physical and chemical means are not available. It must also be known that while hemorrhage is being discussed the vaso-dilators are not to be neglected.

Any agent which increases blood pressure tends to keep the blood from clotting and augments hemorrhage. It is obvious, then, that in acute hemorrhage, before the patient is exhausted, blood pressure should be lowered and clot formation encouraged. But it is held that this is unphysiological, because nature makes an effort to supply the respiratory center with blood, and the approach of death is rapid as soon as the center fails to receive its supply. The disturbed breathing during or following hemorrhage is a result of starvation of the center, and dilating the arterioles sets the patient one notch toward death. So it is believed that the important drug is one which will increase the blood pressure and at the same time have a constricting action on the arterioles.

Adrenalin.—Adrenalin is a powerful heart stimulant and it specifically constricts the arterioles. Applied locally, it blanches the mucous membranes of the eye, mouth, stomach, vagina, bladder or uterus, but it is slowly absorbed and its systemic effect takes place tardily.

* Read before the Semi-annual Meeting of the Missouri Valley Veterinary Medical Association.

However, in studying hemorrhage from the kidneys, it has been found that the intravenous injection of adrenalin materially checks the escape of blood; also that when the effect of the adrenalin wears off the hemorrhage returns. But following slow intravenous or deep intramuscular injections the arrest becomes permanent. The dose for a horse intravenously is from 1 to 5 ounces of a 1,000 to 10,000 solution, and 1 to 6 drams for a dog, repeated once every two hours.

Ergot.—Ergot is of especial value in the treatment of hemorrhage following parturition. Its results are obtained not so much from the constriction of the bloodvessels of that region as from the contraction of the muscle fibers of the uterus itself. These small fibers act mechanically as bands around the bleeding vessels.

Ergot may be given by the mouth, subcutaneously, or intramuscularly. Usually ergotin is employed for hypodermic use, but the fluid extract may be used. Dr. Winslow recommends the following preparation:

Ergotin Alcohol	aa.....	grs. 40
Glycerine Water	aa.....	drs. 1

Give one-half subcutaneously to a horse; 10-15 m. to dogs. It should be repeated frequently and made deeply into muscular tissue, to avoid abscess formation.

Pituitrin.—The *Therapeutic Gazette* gives the following article on pituitrin. It is believed that the intra-muscular injection of pituitrin has proved superior to ergotin, with reference to the intensity of contraction and continuance of excitation. The authors were enabled to note the effect of pituitrin particularly in six cases of extra-peritoneal Cæsarian section: "After not more than five minutes one could see how the exposed uterus contracted, in response to a light tactile irritation, to a firm ball. The action continued for a long time, which accounts for the fact that there was no hemorrhage, a complication that is always feared

in connection with Cæsarian section." In accordance with their observations, the authors are of the opinion that there is no doubt concerning the specific action of pituitrin upon the excitation of the uterus. Pituitrin is preferable to adrenalin because it does not increase the blood pressure as much. It is, therefore, an agent which increases the contractility of the uterus and represents an excellent remedy for post-partum hemorrhage. The fact that the site of injection is not painful nor becomes infiltrated, as is sometimes the case after the injection of ergotin, is another great advantage.

Dose for a horse is 15 to 30 cubic centimeters; dogs, 1 to 2 cubic centimeters.

Cotton Root Bark.—Cotton root bark may be used in the place of ergot, having very nearly the same action, but is said to be more oxytoxic. The dose of the fluid extract is the same as for ergot, one-half to one ounce for a mare and one dram for bitches.

As a matter of fact, the treatment of hemorrhage must vary; first, with the condition of the patient; second, with the length of time during which the hemorrhage has existed, and, third, with the source from which the hemorrhage arises. While it is doubtless true that after a large quantity of blood is lost the body endeavors to keep the respiratory centre supplied with blood, it is also true that in the early stages of severe hemorrhage the rapid fall of blood pressure, with its accompanying syncope, may be considered an effort of nature to diminish pressure upon the bleeding point, in order that the flow may be less rapid and that opportunity may exist for the formation of a clot. After this primary effect there is an effort to raise blood pressure to supply the centers at the base of the brain, and the clot is relied upon to prevent further hemorrhage. It should, therefore, seem probable that in the early stages of a very free hemorrhage the use of vaso-dilators, like amyl nitrite or nitroglycerin might be advantageously used, whereas, after the patient has become considerably exsanguinated, their use is contraindicated. Certainly, their employment after hemorrhage had stopped, would be unwise.

If the hemorrhage be from the non-striated muscular tissue, especially the uterus, it is probable that ergot or its synergists would be indicated, since the escape of blood from these parts is controlled not so much by the constriction of the vessels as by a contraction of the muscular fibers around the vessels.

Given a case of gradual exsanguination due to the slow escape of blood from striated muscular tissue, it is probable that the intramuscular or intravenous injection of adrenalin is indicated. On the contrary, if the case be acute and of recent occurrence, nitro-glycerin has proved to be better treatment.

FROM Dr. Willis Wilson, away up in Dayton, Wash.: "I herein inclose $3 for renewal of my subscription for another year to the *best friend* the veterinary profession has. The REVIEW is largely responsible for the practitioners having any money at all, so in parting with this $3 I feel that it will return many fold. With best wishes for the good work being done, I am, etc."

ALUMNI DINNER OF NEW YORK-AMERICAN VETERINARY COLLEGE.—The annual alumni dinner of the above veterinary school will be held at Reisenwebers, Fifty-eighth Street and the Circle (Eighth Avenue), on Tuesday evening, April 30, at 7:30 p. m. The secretary will announce a meeting of the alumnae by letter, but in order that members may be afforded an opportunity of arranging their affairs so as to be able to make their yearly pilgrimage to their alma mater, and meet their old friends of college days at the festive board, this advance notice is published.

ANNUAL WORK HORSE PARADE.—The horse has not been superseded by the motor car, according to a statement issued by the New York Women's League for Animals in announcing their sixth annual work horse parade, set for May 30. It says there are 72,000 horses in New York, and below Fourteenth Street the traffic is made up almost entirely of horse drawn vehicles. Mrs. James Speyer, president of the league, says already there have been received a number of entries for the parade, which has for its object the bettering of the conditions of the draft animals. Prizes are offered for the best conditioned horses and for the most humane drivers.—(*New York Daily Tribune.*)

REVIEW FROM JANUARY NUMBER ANNALS OF SURGERY.

By B. F. Kaupp, M.S., D.V.S., Colorado Agricultural College.

Drs. Ross and Stewart, after giving a review of the literature and a record of 145 cases of sprain-fracture in the human, give a series of 15 experimental cases in a dog.

These dogs were all completely anesthetized, and after manipulation, which resulted in the experimental lesion, were destroyed by gas.

In experiment 1 the skin and all tendon attachments around the left knee-joint were severed, as well as the ligamentum patella. The femur, then placed in a vice and the leg grasped with the hands, was hyperextended and twisted until the joint was subluxated.

A careful dissection showed no gross lesions of the capsule. The external lateral ligament was partly torn from its attachment to the external condyle of the femur; the tear involved the bony and not the ligamentous tissues, showing a plain sprain-fracture. It would appear that the tear was due to the lateral twist, as it did not occur in the direction of the course of the ligament.

Before this experiment a weight of 160 to 175 pounds was hung from the tibia, under which weight the tibia did not give way.

In the second experiment the right thigh was held firmly in the left hand and the lower part of the leg in the right hand; both were now twisted and hyperextended.

Dissection of the parts showed epiphyseal separation of the head of the tibia and a sprain fracture at the attachment of the patellar ligament to the tibia. It was noted that the tendon had pulled away with it a piece of bone. There was also a fracture

of the crest of the tibia at the epiphyseal juncture. There was no lesion of the knee-joint ligaments, tendon or bones.

In the third experiment the scapula was held firmly in the right hand and the humerus in the left. All motions encountering resistance were persisted in until that resistance was overcome.

Upon dissection it was found that the shoulder-joint was uninjured. A comminuted fracture was noted extending a short distance above the glenoid fossa throughout the balance of the scapula.

In experiment No. 4, after making an incision over the left knee-joint, the tendon of the quadriceps muscle was cut and freed laterally. The cut end of the muscle was grasped in a vice near the tibial end of the patella and by traction was pulled from the tibia in the normal direction of the tendon. At this point the patellar ligament was sectioned and in like manner torn from its attachments, bringing with it some of the bony tissue. Upon examination of the ligament it was noted that some of the fibers were also torn.

In experiment 5 the semi-membranous tendon was exposed and grasped near its center by a vise, and traction by means of weights in natural direction was applied. The tendon ruptured at the point where it was grasped. There was no change found in its bony attachment. The vise appeared to devitalize the tendon at the point at which it was applied.

In experiment No. 6 we find a repetition of No. 4. Upon dissection there was found no rupture of the quadriceps extensor tendon, but a portion of the bone torn loose with the tearing of the tendon attachment.

In No. 7 we find the tendon of origin of the right triceps was exposed and tension was made in its natural direction in the usual way. Upon dissection it was found that the tendon had pulled away the bony cap to which it was attached. The tendon tissue was uninjured.

In experiment No. 8, after removing the skin from the left ankle-joint, all tendons were severed above and below the joint.

The tibia was placed in a vise and a weight hung on the foot in such a manner that part of the weight was supported by the os calcis and the balance by the anterior part of the tarsal bones. Upon dissection it was found that there was a fracture of the calcaneum, involving the surface, articulating with the astragalus. The ligaments were not torn.

Experiment No. 9 was similar to No. 4. Dissection of the parts in question showed no rupture of the patellar ligament, but rupture of the bony tissue to which it was attached.

In experiment No. 10 the tendon of the tibialis anticus was isolated and torsion was applied in the usual manner. Dissection showed no tendon injury but a tearing of the bone to which the tendon was attached.

In experiment No. 11, after removing the skin from the right ankle-joint, the tendon Achilles was cut and the distal end grasped in a vise and a weight applied in the usual manner. The foot was also placed in a vise. Vise No. 1 slipped from the tendon, apparently isolating three parts. The experiment was repeated on that part of the tendon which was overlapped by the other part of the tendon. Upon dissection it was found that the bony structure of the posterior surface of the os calcaneum was ruptured apart, coming away with the tendon. This portion of the tendon last tested was uninjured.

Experiment No. 12 was conducted in a like manner as No. 8 Upon applying the pulling force the hook slipped from its attachment. Upon dissection it was found that the anterior band of the external lateral ligament of the ankle had pulled away some bony tissue at its point of attachment to the astragalus. There was no injury to the ligaments.

Experiment No. 13 was performed in like manner to No. 3. Upon dissection it was found that the semi-membranous tendon had pulled away a portion of the bony tissue at the point of attachment. There was no injury to the ligament.

Experiment No. 14 was a repetition of No. 4. Dissection showed no injury to the patellar ligament, which was shown to have pulled away bone tissue at the point of its attachment.

Experiment No. 15 consisted of exposing the left hip and cutting away all muscular attachments, leaving only the articulation, with its capsule. The femur was then rotated externally, and was also abducted, producing luxation. Dissection showed a tear of the weak upper postero-external portion of the capsule and a sprain-fracture at the insertion of the ligamentum teres.

A VETERINARIAN'S EXPERIENCE WITH SILAGE.—In regard to silage for horses, my experience as a veterinary surgeon may be of some benefit. First-class silage from fully ripe corn may be fed in a very limited quantity in connection with plenty of hay. In most cases the mold is what causes the trouble. I have seen the mold so small and light in color that one could hardy find it unless he looked for it in a strong light. It is evident that one may unintentionally feed silage that is not fit for horses or mules.

Overfeeding is to be especially guarded against in any case. I know of a man who fed his horses himself, a certain amount every day, with no bad results. But when the hired man did the feeding and was not careful the result was fatal to several horses.

When a horse is sick from silage feeding, one first notices that he is not able to swallow. Although drinking as fast as he can he gets very little down. He does not see very well, or appears wrong in his head, as the attendant usually says. He gets unsteady on his legs. He generally goes down in the hindquarters first. At this stage the horse becomes delirious and fights with both fore and hind feet without trying to get up. In a few hours he dies. Another form occurs when they have colic pains, scour badly, and then go down. This form is not so fatal, for they are able to eat and drink a little.

Treatment in most cases is not at all satisfactory. Very few live, or if they do, they are of no use to work for a long time after they get up on their feet.

I give these few symptoms which are familiar to those who have been unfortunate feeders of silage. I have had quite a number of cases in times past, but now no one feeds it in this locality. They regard it as too great a risk to run with horses and mules as high in price as they are at this time.

If one wants some change of feed for horses in winter time, they may grow carrots. They are safe and easily grown in almost any kind of soil. They are especially good for mares nursing foals early in the spring before grass comes.

A COUNTRY VETERINARIAN.—(*Breeders' Gazette.*)

FURTHER STUDIES ON THE BACILLUS BRONCHICANIS, THE CAUSE OF CANINE DISTEMPER.*

By N. S. Ferry, M.D., Detroit, Mich.

In the American Veterinary Review, July, 1910, I published an article on the bacterial findings in canine distemper, in which I was the first to describe an organism proven by me to be the primary cause of the disease. At that time I reported the results of my investigation, covering over two years, and showed that I had isolated an organism differing from any previously described. Since the publication of this article it has been found that a disease due to this organism may be more widespread among animals than had been thought. It was known, of course, that all animals suffered with a disease simulating distemper, and many observers have believed that the infection could be carried from one species to another, but up to the time of the publication of the above-mentioned article no organism had been described which proved to be specific. In this article the organism was described in detail, so that no one would have had any difficulty in recognizing it after its isolation. Later, in June, 1911, in the *Journal of Infectious Diseases*, I described in more detail the experiments mentioned in my first article, and gave the name *Bacillus bronchicanis* to the organism.

With several strains of this organism a vaccine was made, and, in order to prove its efficiency for therapeutic, as well as prophylactic, purposes, it was tested out on a large number of dogs and in a few instances on other animals, such as the Canadian lynx, sea lion, fox, etc. The returns from these experiments were very favorable, and well corroborated our own work, which had

* From the Research Laboratory of Parke, Davis & Co., Detroit, Mich.

been carried on previously in the laboratory on dogs obtained from the dog pound. We were very much surprised to learn that the vaccine seemed to produce marked beneficial results in other animals as well, and the striking results convinced us that one organism would probably be found in other species of animals. To prove this was a field well worth exploring, but at that time I was unable to take up that side of the work.

During the past two months a severe epizootic among our laboratory animals has compelled us, in our own defense, to study the condition pretty carefully, and we have found that although the disease, as the symptoms present themselves, differs somewhat in the various animals, yet the primary cause, without a single exception, has been found to be due to the organism previously described by me and named *Bacillus bronchicanis*. In nearly 100 per cent. of the cases the *B. bronchicanis* was found at autopsy in pure culture in the lower trachea. In but a very few of the cases was there any sign of a nasal discharge or any abnormal condition of the eyes. The majority of the rabbits showed symptoms of distemper, commonly called, in the rabbit, "snuffles," while but two or three of the guinea pigs were thus affected, and none of the monkeys. Only one of the animals, a monkey, had shown signs of a cough, which animals gave the *B. bronchicanis* pure in the trachea and blood.

As the organism was found in pure culture in practically every case in the trachea and, in several instances, in the blood, it would seem as though the disease was primary in the respiratory tract, producing often a septicæmia, and in all cases a profound toxemia. Many of the animals would die with no symptoms other than those of an acute intoxication, namely, a rise in temperature, followed by a sudden fall, loss in weight and severe prostration, with death within a few days.

The questions which now confront us are these: Are we dealing with a purely local condition and are our laboratory animals infected simply from our dogs with a disease which is ever present? Or are we dealing with a clinical entity which is widespread and general? Is it a disease, primarily, of the dog affect-

ing now and then, sporadically or epizootically, other animals? Or is it a disease widespread among animals, with no one species as its regular host?

I will not go into detail in this article as to the symptomatology of the disease as found in animals other than dogs, or attempt to prove at this time that we are dealing with a disease common among several species of animals and not a local epizootic. I believe, however, now that McGowan has found an organism common to dogs, as well as other animals, which organism he claims to be identical to mine, and that I have found my organism to be the cause of a very serious condition among dogs, guinea pigs, rabbits and monkeys, that the name *Bacillus bronchicanis* is not quite the proper name with which to describe this organism of mine. I therefore propose to change it so that it can be applied to the organism as found in any animal, and shall call it hereafter *Bacillus bronchisepticus.*

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NOT HIS FAULT. Racehorse Owner (to jockey, who has only managed to come in fourth)—You duffer, didn't I tell you to keep about third until the last few hundred yards, and then come away and win?

Jockey—But I couldn't come away without the bloomin' 'oss, sir, could I?—(*Tit-Bits.*)

DR. E. D. HUDSON, of Gettysburg, Pa., writes:

Your reminder came to-day,
And my remittance, without delay,
I send to you, my good old friend,
For the 1912 REVIEW please send.
It gives me pleasure to read it through,
That good old AMERICAN VETERINARY REVIEW,
For it's the best I read in years gone by;
To do without it I won't try.

TUBERCULIN TESTING AND TESTERS.*

By Henry L. Sommer, V.M.D., Philadelphia, Pa.

In the January number of the American Veterinary Review, as well as in the *American Journal of Veterinary Medicine,* appeared an article on "Bovine Tuberculosis, Its Problem and Control," written by no less an authority than Professor Veranus A. Moore, of Cornell University.

Referring to the above-named article, the writer wishes to openly differ with the professor's views as regards the statement that "legislation cannot help in the control and eradication of the dread disease."

Recently the writer had occasion to be in the State of Wisconsin. This State is known as a great dairy center, and many cattle are daily being shipped out of that State, perhaps into every State of the Union, as well as out into foreign countries. Previous to their export these cattle are tuberculin-tested, and the reactors are condemned and slaughtered.

The testing is done by licensed veterinarians, as well as by "cow-testers," who are six-month graduates from the Agricultural College of Wisconsin. It is needless to say that, according to statistics, the above State stands very high in the errors of detecting tuberculosis. The reason is partly because any of the above-named graduates can become licensed by the Sanitary Board of the above-named State to do tuberculin testing. In consequence whereof many diseased cattle are being passed as healthy, due to the inability of these "graduates" to make a physical examination of the animals to be tested.

In actual practice many an honest veterinarian is being confronted by the everlasting problem of "Bread and Butter," to

* Presented to the Keystone Veterinary Medical Society, Philadelphia, February 12, 1912.

give a chance to his clients, who are the large cattle dealers, "to get rid" of their stock. Many of them are being approached by the above-named dealers to "do better" (meaning not to condemn so many, or very few,) or else they will call in his nearest competitor, who, by the way, is the licensed "cow-tester," or even a neighboring veterinarian. The buyer naturally will get diseased stock and will declare the tuberculin test as a farce, as well as to get him averse to the entire test.

The tuberculin test, as a whole, is a delicate matter, even in the hands of the experienced, and is only accepted by great authorities merely as an arbitrary way of detecting tuberculosis, in view of the fact that we have no other available satisfactory means of detecting the dread disease, let alone leaving it in the hands of the layman and inexperienced.

Many dishonest dealers, being prompted by dishonest designs, have learned enough about the tuberculin test, and will "load" (common expression for injecting tuberculin before testing) their cattle, and thus the tuberculin tester who is experienced will not find the pre-injection abnormal rise in temperature, and thus again pass a diseased animal for healthy.

Such conditions exist, although few care to admit that such practices occur. If such conditions would exist in a few States of the Union, especially in those States that have no "tuberculosis laws," is it a wonder that we cannot eradicate the disease, yea, not even keep it under control?

Would it not be a good idea to take the tuberculin testing out of the hands of these "cow-testers," and even out of the hands of the private practitioner?

The Federal Bureau of Animal Industry could have a department of tuberculin testing in which veterinarians would do nothing else, and depending on nobody but the government, and do the testing of cattle for intra- and inter-State import and export, the same as exists a department of meat inspection.

This would be a radical way of eradicating the disease.

The writer suggests that the International Commission on the Control of Bovine Tuberculosis would take this matter into con-

sideration, although by no means are sanitarians, pediatric societies, etc., invited to stay out.

Of course such a law would have to pass the National Congress, and the writer realizes that such an act would be hard to pass, but is by no means an utter impossibility, if we honestly care to eradicate the dread disease.

So, or similarly so, can we combine honesty with knowledge and be protected by legislation.

AUTOS KILL ELEVEN IN MONTH.—Automobiles killed eleven and injured fifty-seven in New York City during the month of February, according to statistics compiled by the National Highways Protective Society. This death record shows an increase of nearly 300 per cent. over the corresponding month last year.—(*New York World.*)

CABS IN LONDON AND NEW YORK.—A taxicab strike has been in vogue this week in London, and no one seems to have missed the "taxis." The streets have been particularly free to the foot passengers. The old cab horse and cabman have been having an innings. There are 3,300 horse-drawn cabs running on the streets of London at present. Of this number 2,200 are "growlers," and the remaining 1,100 hansoms.—(*London Live Stock Journal and Rider and Driver.*)

OUR DUMB ANIMALS, Boston, Mass., seems to get better with each successive issue. For years we have been ardent admirers of the late Mr. Geo. T. Angel, who founded it and edited it for forty-one years; but it seems to have broadened its scope under the direction of those that have taken up the work of that good man. So that now more subjects of popular interest are treated; even to the discussion of breeds of horses. We believe that all veterinarians would be benefited by reading this friend of the dumb beasts whom they are striving to serve in a medical way; and we wish every veterinarian in America could possess the two first numbers of 1912. *Some* may be able to procure them by addressing the Editor, at 45 Milk street, Boston, Mass.

REPORTS OF CASES.

TWO INTERESTING CASES, WITH POST-MORTEM FINDINGS.

By WILFRED J. STOKES, Veterinarian Fifth Field Artillery, U. S. A., Fort Sill, Okla.

Case 1.—A jack, aged 4, owned by the "Apache Prisoners of War." Was called to treat this animal, and found a well-marked case of laminitis; temperature, 104, and other usual symptoms; feet fixed to ground, etc. Cold packs were kept on feet and limbs and 2 ounces nitrate of potash, and oil, 1 pint, were given. Oil and potash were given in above doses until bowels became quite loose, and a small dose of tr. opium, ½ ounce, was given to modify this looseness. Animal assumed the recumbent posture for lengthy periods. Temperature subsided gradually within three days to 101, and remained at that point. Pulse good. Never a hearty eater, but appetite remains fair for hay. For about a week there is no subsidence of stiffness, but at this time a *slight* improvement is to be noted. A few days later adrenalin chloride, 1/1,000, was injected—15 m. in center of coronary band at toe and at center of coronary band on each side of foot in both feet. Iodine liniment was also used daily on coronary bands. From this time on a steady decline of appetite and strength set in, and tr. digitalis, nitrous ether and arom. spts. ammon. was given in prescription every three to four hours, with occasional doses of nux vomica, turpentine and aromatic spirits. Little fecal matter is ejected, for little food is taken, but such as is voided is soft. Abdominal symptoms now present themselves—straining and pressing limbs against stall and turning head to flanks. Physostigmine sulphas., ½ gr., is given, with fair results, but no improvement is shown. Morphine is given to check pain, and temperature starts to ascend, and animal succumbs. The most peculiar feature, to me, of this case is the attack of laminitis in an animal doing no work, and but a light eater, kept at liberty in a box stall, and, secondly, the steady improvement in temperature and decline otherwise.

Post mortem revealed no cause for death, there being but a slight congestion of the bowels, and other organs apparently healthy, and lungs congested from constant lying in later stages. Animal was fat, and the kidneys were each surrounded by large masses of fat, weighing several pounds.

Has anyone seen anything similar, and have they theories to offer?

Case 2.—A small bay mare, aged 11, has an attack of colic, which persists for about 18 hours. Bowels finally move and animal makes recovery. About two weeks later is again subject to an attack similar to the previous one, in that the pain is at first subacute and gradually gets worse, in spite of the usual remedies. In the first attack the temperature was 95° or 96° during the entire time, but during the second attack it was about 100°. Repeated doses of arom. spts., 1 ounce; turpentine, ½ ounce; nux vomica, 2 ounces, and ginger, 2 ounces, in linseed oil, fail to give relief. Little or no peristaltic action is to be heard on auscultation, and ½ gr. eserine and 1 gr. pilocarpine are given. As there is considerable pain, ½ ounce cannabis Indica (fl. ex.) is given, which gives relief. Pains return during the night, and 1 ounce of cannabis is again given, and the animal remains quiet until about 4 a. m. Aromatic spts. and nitrous ether are then given, and about 10 a. m. ¾ gr. of eserine and 1 gr. of pilocarpine are given. Animal is moderately tympanitic, and the eserine causes a great deal of straining and the expulsion of a great deal of flatus. The rectum had twice been emptied manually, showing a little bowel movement, and with the expulsion of the gas and evident relief afforded I hoped that the animal was on the mend. However, the pains recur and patient grows worse. About 7 p. m. there is some regurgitation from the nostrils, and the stomach pump is passed. But a small amount of material comes from stomach and animal immediately turns around and starts to eat hay with apparent relish, but stops in a few minutes and again goes to rolling vigorously. Temperature goes up to 103°. Arecaline, 1 gr., is given and causes a great deal of straining, but no evacuation. Previous diagnosis of intestinal valvulus is apparently confirmed and case is given up as hopeless. Two and one-half gallons of water, warm, and medicated with eucamphol, is then siphoned into the large bowel through the canula and rubber tubing, but without favorable result, and patient is dosed with fl. ex. cannabis Indica and left to itself, and dies several hours later.

Post mortem revealed an adhesion of the mesentery to the under surface of the large colon, which was purulent in character and in which was included a loop of the floating colon, which was in the form of a " U," with the open ends drawn tightly together.

The peculiar feature in this case was the efficient manner in which the first dose of eserine worked, producing an evacuation of a great amount of gas, relieving all tympany in spite of the almost total closure of the bowel, and which led me to believe that my first diagnosis of occlusion or volvulus was wrong.

EQUINE TUBERCULOSIS.*

By R. E. SHIGLEY, M.D.C., Kenmore, N. D.

" Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

It is not my purpose to enter into a lengthy discussion, but merely to state a few facts regarding *Equine Tuberculosis,* together with a case report which, I regret to say, is meagre owing to the distance from the office at which it occurred.

Tuberculosis in the horse is not very common, though the animal is quite susceptible to artificial inoculation of the tubercle bacillus or tubercular material; but it appears that the more healthy outdoor life with exercise, which this animal generally leads, makes it much less susceptible to the natural modes of infection than man, cattle or swine.

However, when tuberculosis is encountered in the horse it is generally found in young animals; and in these the tubercular lesions are most frequently found in the mesenteric and other abdominal glands. These glands are found enlarged, and they form agglomerated, nodular, tubercular masses, the mesentery and omentum is thickened, and the intestinal mucous membrane often shows tubercular ulcers.

The tubercular masses may surround large veins, compressing them, and may rupture into them and discharge the tuber-

* Read before the Tenth Annual Meeting of the North Dakota Veterinary Medical Association, January, 1912.

cular material, bringing about a generalized, acute miliary tuberculosis.

In abdominal tuberculosis in the horse the spleen is frequently found involved, the liver rarely. The former may assume a large size and may weigh 20 to 25 pounds.

Primary pulmonary tuberculosis is generally of the miliary type, while large tubercular nodules and masses are rarely seen in the lungs of this animal. The peribronchial lymph nodes are found enlarged and studded with yellowish nodules. While the respiratory mucosa is sometimes ulcerated, the serous membranes, the pleura and peritoneum when the seat of tubercular lesions, are a picture similar to *"Pearl Disease"* in cattle.

The case observed was in a pure-bred Shire stallion, five years old and weighing 1,780 pounds. He was purchased in Illinois and brought to North Dakota during the spring of 1910.

I first saw him on May 11, 1910, after he had been driven about twenty miles and stabled with the stallions of this locality, awaiting examination for license with the Stallion Registration Board.

On passing through the stable, his attitude attracted my attention; his temperature was taken and found to be 104, with a pulse of 60. He was immediately isolated, fearing influenza.

The following morning his temperature was 102, pulse 48. He was then examined, but not put through the *ordinary* routine. A small enlargement was found at the entrance of the thorax just above the point of the sternum, but, owing to his good condition, palpation did not reveal its outlines distinctly.

Nothing more was seen of the stallion until August 10, when I was summoned to the farm and found him greatly emaciated. The owner stated that he had been running down all summer and had had a chronic cough. The tumor at the entrance of the thorax was now plainly visible and found to be pressing upon the trachea and emerging vessels. Respiration was difficult at 60, temperature 102, pulse 60.

Auscultation over the lungs showed a dulness along their posterior borders, and a peculiar tubular breathing throughout.

An examination on August 13 showed no change. On August 27 pulse and temperature remained the same as on August 10, but respiration was more difficult and rapid, 70 per minute. He now had difficulty in rising and would cough at the least exertion. At no time did he show a loss of appetite or give evidence of any abdominal pain. Notwithstanding his

constant appetite, the emaciation was increasing, and he now was scarcely more than a skeleton. He died some time on September 5 or 6, and the post mortem examination was held late on September 8.

Post mortem: Large tumor at entrance of thorax and adherent to first ribs, crowding all emerging vessels upward and greatly reducing the lumen of the trachea. Pleura normal. Parenchyma of lungs contained nodules, the posterior borders being nearly solid.

The spleen was much enlarged, and three large tumors were hanging from its greater curvature. Several nodules were found in the organ itself, some as large as hickory nuts. A large tumor, about 8 by 10 inches, was found in the sublumbar lymph glands. This tumor was soft in texture. Another large and more fibrous tumor, 7 by 9 inches, was at the origin of the mesentery. Small papiliform tubercles were found on the serous covering of the intestines in contact with this tumor.

All of the intestinal lymph glands were enlarged. Sections of the various tumors and organs were sent to Dr. Van Es, who reported that they contained lesions of tuberculosis, and the bacilli found was of the human type.

TORSION OF THE SMALL INTESTINES.

By A. T. FERGUSON, D.V.S., Evansville, Ind.

I am sending you a report which might be of some interest to some of the readers of the REVIEW. I also send you a photograph of the torsion, which is marked with an X. I am sorry it is not more clear, but it can be plainly seen with a magnifying glass.

I was called at 7 a. m. to attend a black mare, about 5 or 6 years old; weight, about 900 to 1,000 pounds.

The caretaker found her at 5 a. m. down in the stall with what he supposed was colic. On my arrival I found the mare in great distress and doing violent kicking. She had passed considerable fæces, and had also urinated.

At this time the animal was in a considerable perspiration.

I administered 1 grain arecoline, with little or no results, unless it was to increase the intensity of the pain.

I then administered a purge, consisting of two of Abbott's aloine tablets. After waiting for thirty minutes and seeing no good results from my efforts to relieve the animal, I suspected

something more serious, and proceeded to make a rectal examination.

I at once made my diagnosis as "torsion of the small intestines," and at once notified the owner that in my opinion the animal would not recover.

I then gave two enemas, at intervals of about five minutes, or as soon as the first one had been ejected, but on examination I found little or no change.

I then gave barum chloride, per jugular vein, with no results. The case refusing to respond and the animal growing worse, as a

last resort I gave, one hour after, a tablet of eserine, ¼ gr.; pilocarp hydrochlor, 1½ grs., hoping to stimulate the intestines to respond, but this also failed.

The animal was then turned over to another veterinarian.

What he administered I do not know, but I was perfectly satisfied that the animal could not possibly recover.

The mare died some time during the same evening.

I then made up my mind I would verify my statement by holding a post mortem, and went to the expense of buying a camera to take a picture of this animal's internal organs.

I am sorry it is not clearer, but the torsion can plainly be seen.

It is a complete torsion of the small intestines, and you will notice the strangulation of the torsion and engorged hyperæmia, which of itself is sufficient evidence that the diagnosis was correct.

I have taken particular pains in treating animals for colic and

intestinal troubles to carefully observe the animals' various symptoms and their peculiar performances.

I have noticed that as a usual thing if there is a misplaced bowel that the animal is in great agony, and that this seems to increase as the time of suffering is lengthened. That the animal will make several efforts before he finally decides to go down. That there is usually a rise in temperature of from 1 to 2 degrees. That the perspiration is intermittent and patchy. The pulse becomes weak before the end, and what is most deceiving to the novice is that the animal will continue at intervals to pass fæces in very small quantities, one ball at a time, and usually soft, so that one might suppose that the intestinal tract was clear, which, of course, is true posterially to the torsion.

I have had one case similar that was allowed to roll in a box stall, and the torsion straightened out spontaneously, and immediate relief was noticed.

I had given orders that this mare be placed in a box stall and allowed to roll all she pleased, but my orders were disobeyed, and the animal walked around until she became too weak to do so, and the end came.

I am now satisfied that many animals die from similar causes that are too often treated for impaction of the colon.

But with careful observation of all cases that come to the careful practitioner no such mistakes should occur, and with proper examination and diagnosis the owner can be warned hours before what in all probability the termination will be, and by so doing will not only save himself a whole lot of adverse criticism, but will materially add to his prestige with the owner of the animal and with the community, which too often is ready to belittle the profession.

AN INTERESTING CASE.

By A. T. Kinsley, M.S., D.V.S., Kansas City, Mo.

On January 27, a 1,400-pound draft gelding, used on a coal wagon, suddenly began to stagger, fell and died within a few moments. The owner of this horse was anxious to ascertain the cause of death, because of the fact that the horse had been run into by a street car on January 9, and the outcome of a suit for damages would largely depend upon the proof of injury or injuries received at the time of the street-car accident. The

horse was examined immediately after the accident, but he was in good condition, and no specific injury was detected. The horse had been out of service for thirteen days, *i.e.,* from the 9th to the 22d of January, and had been working regularly for six days, *i. e.,* until the 27th, when he died. During this time the driver said the horse was not quite normal, seeming to lag a little, but had shown no particular distress and had been used in pulling quite heavy loads.

The dead horse was sent to the hospital of the Kansas City Veterinary College and autopsied on January 28. The entire abdominal viscera were found to be normal, excepting that all organs were anaemic, *i. e.,* pale and bloodless. Upon opening the thoracic cavity, several gallons of blood escaped. The blood had partially coagulated, and there were deposits of coagula upon various parts of the pleura. There were also several areas containing pigment, particularly in the visceral pleura of the right side. After carefully removing each lung, leaving the heart in position, it was noted that on the right side there was a marked local lesion of the pleura, and on closer inspection it was found that the fifth to the tenth ribs, inclusive, had been fractured about midway between the vertebrae and sternum. The sixth rib had been comminuted, and one portion of detached bone was deflected and retained by the adhering pleura and projected through the visceral pleura and pericardium into the pericardial sac. This fragment of bone had gradually eroded the right auricular wall and finally punctured into the auricular cavity and produced fatal hemorrhage. The fracture had not occurred recently because the pleura and subpleural tissues had retracted and adhered firmly to that portion of the sixth rib which projected through the pleura and pericardium; and upon further examination of the location of the fractures in the other ribs it was found that they were surrounded by thick callouses of granulation and fibrous tissue, which indicated that the fractures were of at least fifteen to twenty days' standing.

This case is of special interest because the animal was not thought to be seriously injured at the time of the accident and because the puncture of the auricle was gradually brought about as a result of the contraction and dilation of the heart that terminated fatally as a result of hemorrhage, which occurred immediately after the puncture.

From the appearance of the coagula and the blood within the pleural cavity, the hemorrhage had occurred just prior to

the time of death. The pigmented areas in the right parietal pleura were no doubt due to hemorrhage at the time of the original injury. If a piece of rib had not punctured the heart, it is possible that the horse would have made as uneventful recovery, and no one would have known that he was able to pull heavy loads in spite of six fractured ribs.

A MONSTROSITY.

By C. H. GARNER, V.S., Ovalo, Texas.

The accompanying photos show what I delivered from a mare on the night of February 11, 1912. They consist of two separate horse colts behind, with two spines, but in one body. A single

set of shoulders and front legs, single chest, one neck and two heads. It lacked 120 days going its full time. I have it mounted and in my office.

ABSTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

By Prof. A. LIAUTARD, M.D., V.M.

TUBERCULOSIS IN THE DOG [*E. Wallis Hoare, F.R.C.V.S.*]. —The subject was an Irish setter dog, aged 15 months. Purchased when 5 months old; he then was in poor condition and looked unhealthy. But with good care and liberal feeding he improved slowly. After some ten months his condition changed—he had capricious appetite, quick respiration, and though with no cough he rapidly lost flesh. When seen by the writer he looked poor, with respiration accelerated, marked heaving of the flanks, abdominal breathing. On percussion the right side was completely dull and on auscultation there was complete loss of respiratory murmur. The left side presented the same signs, but far less marked. Cardiac sounds were indistinct and cardiac impulse weak. There was some ascitis, but no cough or nasal discharge. A diagnosis was made of pleurisy with affusion, probably tubercular. The dog died before tuberculine test could be applied. At the post mortem an enormous amount of fluid was found in the thorax. The right lung was pressed against the vertebral column and collapsed. Costal pleura of both sides inflamed and with very small tubercles. The examination made of the sticky, frothy exudate, which filled some of the bronchial tubes, revealed the presence of numerous free tubercle bacilli; readily recognized by microscopic examination and staining with Ziehl-Neelsen.—(*Vet. Record.*)

CHONDROIDS IN THE GUTTURAL POUCHES [*S. N. Woodward, M.R.C.V.S.*].—Seven-year-old cob had a swollen throat. He had lost appetite and taken no food lately. The swelling extends over both parotids and under the throat. It is firm and hard. The temperature is normal, pulse weak and thready; a marked jugular pulse is present. Inability to swallow is accompanied with return of water by nostrils in the attempt at drinking. Thick nasal discharge. Exploration with trocar through the parotids brings

out a bead of pus. Cutting down the swelling and breaking through the tissues with the fingers forty-eight chondroids were extracted. The guttural pouches were syringed with permanganate, and belladonna electuary given frequently. After several days 74 more chondroids were removed, making a total of 113 chondroids extracted, and weighing 26 ounces. The largest chondroid weighed 6½ drams. There was also washed a pint of thick, white substance. Recovery was complete after a short time.—(*Journ. of Com. Pathol. and Therapeut.*)

Differential Diagnosis Between Torsion and Simple Impaction of the Pelvic Fluxure of the Colon [*H. Caulton Reeks, F.R.C.V.S.*].—In a long and very interesting article, illustrated by valuable photographs, the author presents the following important points as a means of differential diagnosis:

In Impaction.—1. Periods of ease, manifested by the the patient maintaining a sleepy, stretched-out position, on the floor for quite long periods. 2. Pulse full and normal in number of beats, except during the paroxysms of pain. 3. Respirations deep and regular, only becoming quickened and catchy during pain. 4. Temperature normal. 5. No straining on rectal examination. Rectum ballooned. No marked spasmodic condition of its walls. 6. Rectal examination reveals the presence in the pelvis of the ingesta—packed in pelvic flexure.

In Twist.—1. Constant pain exhibited by continual crouching movements and marked disinclination to lie down. A dog-like attitude when down and frequent twinges of acute pain. 2. Pulse constantly weak, quick, and slowly progressing to a running-down character. 3. Respirations short, catchy and labored or sobbing. 4. Temperature raised to 103° F. 5. Marked straining on rectal examination, with spasmodic clasping of the bowel on the inserted arm. 6. The pelvic flexure is altogether missing from its position in the left flank.—(*Journ. of Comp. Patho. and Thera.*)

Impaction of the Small Intestine in a Horse [*C. N. Meyers, L.V.Sc.*].—This pony was in pain since twelve hours. Visible mucous membranes injected; pulse, 50; temperature, 102° F. Little peristalsis of the intestines; no apparent tympanitis. Bladder distended and large quantity of urine taken away. Rectal examination reveals hard fæces on the left side. Treatment was negative. Post mortem showed gaseous distension of stomach

and intestine. Large colon almost empty. Cœcum has few hard pellets of food material and enormous number of sclerostoma equinum. At the ileo-cœcal valve, within the cœcum, there was a large nest of tapeworms and at this point the mucous membrane was neurotic. Anterior to the ileo-cœcal valve, within the ileum and filling it for a length of about 2 feet, distending the diameter of 4 inches, there was a firm mass of recently ingested food material. The tapeworms seemed to have caused a paralysis of the intestinal wall at the ileo-cœcal valve.—(*Veter. Journ.*)

Dislocation of the Cervical Vertebræ [*W. Waters, M.R.C.V.S.*].—Six-year-old mare is found one morning unable to get up. She is tympanitic, the anus and vulva greatly swollen, in great pain, covered with profuse perspiration, and remains insensible to the pricks of a pin made on the limbs. Pulse is fast and weak. Attempts are made to put her in slings, after pulling her from her stall, and when she is about being raised her head drops suddenly and the mare expired. A coarse post-mortem examination revealed a complete dislocation of the third and fourth cervical vertebræ, with extensive inflammation of the neck.—(*Vet. Record.*)

Etiology of Canine Distemper [*N. S. Ferry*].—Ferry has made a bacteriological study of distemper in dogs and has isolated an organism, *Bacillus bronchicanis,* which is, he believes, the cause of the disease. Various other bacteria were isolated from discharges from the eye and nose, and from the contents of cutaneous pustules; but it appeared that all so isolated were present as secondarily infecting parasites. On a routine examination of the secretions of the larynx, trachea, bronchi, lungs and blood of dogs, which had been killed while in various stages of infection, 97 strains of *B. bronchicanis* were obtained. In 63 cases quantities of from 1 to 3 c.c. of blood were drawn off from the heart, and either put into a 50-c.c. flask of broth or distributed in several tubes of broth. In 18 of these cases *B. bronchicanis* was obtained, in pure culture in 13 cases, and in company with other bacteria in 5. In 11 other cases cultures of other bacteria were obtained. *B. bronchicanis* is described as a short, narrow bacillus, occurring sometimes singly and sometimes in pairs, showing a moderate, slimy growth on nutrient agar. On potato growth is fairly abundant after 24 hours' incubation at a temperature of 37° C., having a raised moist, glistening, uneven surface, of a light-tan color, which darkens with age. Growth occurs on gela-

tin and blood serum, without any liquefaction of the medium. Cultures in dextrose, mannite, maltose, saccharose, lactose and glucose broth have an alkaline reaction, and there is no formation of gas. In litmus milk there is some bluing during the first three days of incubation; color is gradually discharged from below upwards. There is not any formation of indol in pepton solution. Cultures on potato and in milk and nutrient broth have a disagreeable odor. The organism was pathogenic for healthy puppies on intratracheal inoculation, or when a broth culture was applied directly to the nostrils. Negative results were observed, with subcutaneous and intravenous inoculation. Altogether, *B. bronchicanis* was isolated from 97 dogs after death. In 68 cases it was isolated in pure culture from either the respiratory tract or from the blood; out of 18 successful cultures from the blood the bacillus was the only organism present in 13 of the cases.—(*The Med. Officer and Veter. News.*)

FRENCH REVIEW.

By Prof. A. LIAUTARD, M.D., V.M.

VARICOSE PHLEBITIS OF THE MAMMARY VEIN IN A COW, WITH SPONTANEOUS HEMORRHAGE SIMILAR TO SAME DISEASE IN MAN [*MM. Prof. G. Petit, Adjunct B. Germain and Mr. Chapelier*].—Norman cow, in good condition, excellent milker, without pathological history, aged 12 years, is in the eighth month of pregnancy. One day she is suddenly taken with very abundant mammary hemorrhage, which gradually subsides, and is arrested as well as possible with a pad and surcingle by the owner. The hemorrhage is coming from the right anterior mammary vein, near its entrance in the abdomen. There the skin is very thin, and it is difficult to secure enough of it to close the wound with the ordinary pin suture of ordinary bleeding. On a level with the wound and back of it, on the course of the vein, which is of ordinary size, not exaggerated as commonly observed in old milkers, there are two little swellings, hairless, where the skin is also thinned out and almost ready to burst. The next day another violent hemorrhage takes place. Perchloride pads are necessary to control it. Eleven days after, another hemorrhage. It has occurred in the night, and when discovered the cow is literally covered with blood. The general condition of the animal has suffered much from these repeated losses of blood and she

is sent to the butcher. By the careful examination of the veins and its histological study, the case was considered as a chronic varicose ulcerative phlebitis, similar to those that are quite commonly observed in man.—(*Bullet. de la Soc. Cent.*)

CONGENITAL DIAPHRAGMATIC HERNIA OF THE STOMACH AND SPLEEN [*Adjunct Prof. Lesbouyries.*]—After a few days of illness this horse died quite suddenly. At the post mortem, on opening the thoracic cavity, large quantity of undigested food was found, and between the folds of the posterior mediastinum were the stomach and spleen, floating in a bloody liquid. Both of these organs were in the thoracic cavity, the stomach hanging through a diaphragmatic opening, with the piloric portion of the small intestine in the abdomen, and forming a very acute angle at the point where the stomach passed through the diaphragmatic ring. The case was then one of strangulation through said ring. There was also hepatization of the right lung, congestion of the left and rupture of the stomach at the small curvature. The spleen was strangulated also on its external border, and the center of the aponaurotic portion of the diaphragm showed the circular opening through which the hernia had taken place, lacerated on its left side, but presenting the characteristic lesions of congenital diaphragmatic hernia. During life the auscultation of the chest had revealed only symptoms which justified a diagnosis of typhus affection, although the percussion, quite suspicious, observed with clearly marked borborygms, had attracted attention. The animal had no colics, had a comparatively quiet respiration, ejected feces with foetid odor, and died when nothing indicated such a sudden and rapid end.—(*Rev. Vet.*)

SPONTANEOUS EXPULSION OF THE COTYLEDONS IN A COW [*Mr. Larrieu*].—This must be a very rare occurrence, says the writer, as he has never seen it during thirty years of practice, and it has, so far as he knows, never been recorded in professional literature.

Primiparous Normand cow had two calves. The delivery was comparatively easy. The expulsion of the membranes took place naturally and no abnormal vulvar discharge followed. After a few days of apparent alteration in her condition, the animal makes violent expulsive efforts and throws out some 20 fleshy masses, as big as a hen's egg, convex on one face, concave on the other. They are whitish, spongy and odorless. They are uter-

ine cotyledons, loose from the mucous membrane. By manual examination 16 more are found loose and extracted. Antiseptic injections are prescribed. The next day 10 more cotyledons are expelled. With this all bad symptoms subsided; no more straining efforts; rumination returned; the cow was well. It is interesting to bear in mind that in this case the accouchement occurred in excellent condition, that the expulsion of the membranes took place early and readily, without pulling, and that the expelled cotyledons were of large size and did not seem to have undergone the rapid involution observed ordinarily after parturition.—(*Rev. Vet.*)

COCAINE AND ADRENALINE IN ACUTE AFFECTIONS OF THE FOOT [*Mr. P. Cozette*].—The author relates his experience in the treatment of three cases of severe acute laminitis and two of acute arthritis of the foot, which recovered in a short time, after having been relieved of the acute pain with subcutaneous injection of cocaine and adrenaline. In the first of the cases of laminitis the cocaine was used at the beginning and adrenaline added to it, with far better results. Three injections only were required. In the two other cases the cocaine and adrenaline injections were required only twice. In the two cases of acute arthritis of the foot the injections were also followed by marked relief, but with them they were repeated every day for 10 and 15 days. It is well understood, however, that the use of adrenaline and cocaine is to be considered merely as an auxiliary which is recommendable, but does not exclude the additional ordinary treatment.—(*Rep. de Pol. San. Vet.*)

PRIMITIVE TUBERCULOSIS OF THE FACE IN A CAT—AUTO-INOCULATION [*Adjunct Prof. Charmoy*].—Aged about 10 years, this black-and-white cat has since several months a number of ulcerated wounds which have remained rebellious to all kinds of treatment. Half of the right side of the face is invaded by a wide, irregular ulceration, involving also the greatest part of the upper eyelid, the internal angle of the eye and spread downwards on the nose. The ulcer is deep, funnel-like, and gives out sanious yellowish, thin pus. The parts round are swollen and the face considerably deformed. There are also two smaller ulcerations on the cheek and temporal region. The lymphatic glands of that part of the face are hypertrophied, hard, bosselated and not adherent to the skin. Respiration is loud and labored. There are also one

ulceration on the vulva and a smaller one on the margin of the anus, and again one on the inside face of the right paw. These last are probably the result of scratching and licking of the animal, and, of course, the source of the auto-intoxication. Tuberculous bacilli were found in some of the tissues taken from the ulcers and confirmed the diagnosis of tuberculosis which had been made. The post mortem showed also tuberculosis of the cervical lymphatic glands of the right side and in the mesenteric glands. The lungs were free from tuberculous lesions.—(*Rec. de Med. Vet.*)

TREATMENT OF TETANUS WITH SULPHATE OF MAGNESIA, PHENIC ACID AND ANTITETANIC SERUM [*Mr. Jean Camus*].—The writer has treated comparatively tetanic dogs with the sulphate of magnesia, phenic acid or antitetanic serum, pure or mixed with pepsin. The sulphate and the acid have no action on the development of tetanus. The sulphate reducted temporarily the contraction and the excitability. The acid may have an antiseptic influence on the tetanic bacteria, but is without action upon the toxin when it is fixed on the nervous centers. Phenic acid in the doses which were used seemed to have no immediate bad effects; the sulphate injected in the cephalo-rachidian fluid has. A dog treated with both the sulphate and the acid did not live any longer than the other dogs of the same series. With antitetanic serum alone, injected simultaneously in the cephalo-rachidian liquid, in the veins and under the skin, superior results to those of the other modes of treatment were observed. Treated with pepsin, the serum seemed to give better chances of success. All the results obtained, however, were very irregular.—(*Soc. of Biology.*)

GERMAN REVIEW.

BY JOHN P. O'LEARY, V.M.D.

PITRYASIS IN THE ARMY HORSE AND ITS TREATMENT [*Military Veterinarian Videlicet*].—That pitryasis is difficult to cure is evidenced by the fact that notwithstanding the strong applications usually employed are effective in destroying the insect, but ineffective as regards the destruction of the eggs. The author had more than forty cases occurring among the horses

of his regiment. He applied the following preparation with good results in each case:

Pulv. Florum Pyrethri	5.0
Spirit Denaturatus	60.0
Natrium Carbonicum Crystallisatum ...	20.0
Aqua	200.0

The insect powder is macerated 4 or 5 days in the alcohol and shortly before using the maceration is mixed with the soda solution; the latter is intended for the destruction of the cutin capsule of the egg. The horse is first clipped and the whole body sponged with the fluid. If the hair is not removed, particular care should be taken that the application impregnate the roots of the hairs. In this manner a single sponging not only kills the insect, but also the greater number of the eggs. The remainder die in the course of a few days.—(*Berliner Tieraerztl. Wochenschrift,* No. 6, 1912.)

THE TREATMENT OF THE CUTANEOUS INFLAMMATION CAUSED BY THE FILARIA IRRITANS [*Anton V. Toth*].—For some years past the author had occasion to observe and treat many cases of cutaneous inflammation caused by the *Filaria Irritans* appearing in the withers and shoulders of horses.

In the beginning small round nodules, about the size of a pea, are observed on the shoulders and withers, the hair stands erect on these spots, it soon falls off; the part becomes crusty and dry. Soon the scab falls away, leaving a small ulcerated surface, in the center of which shot-like elevations appear. In these little shot-like nodes the larva of the *Filaria* can be distinguished by the aid of the microscope. In extensive affections of this nature, which were treated surgically and medicinally, for instance, with carbolic acid, creolin, corrosive sublimate, iodoform, even the actual cautery, little success had been attained, for under the old crusts nodules appeared anew. Finally the author succeeded in discovering a remedy: an arsenical paste which had given good results in all cases. The prescription is as follows:

℞ Acido Arseniosi Pulverisati.....	5.0
Farina Secalis	25.0
Aquae Destillatae	q. s.

Misc. fiat pasta.

This paste is spread over the moist, ulcerous surface, to which it adheres. The next day the parts have become swollen and odematous, and on the surface of the ulcer there appears a thick, black crust. In about the lapse of a week the inflammation disappears, and the scab becomes detached, leaving behind a healthy surface, which heals in about 10 days, no further treatment being necessary.—(*Allatorvosi Lapok,* 1910, No. 29.)

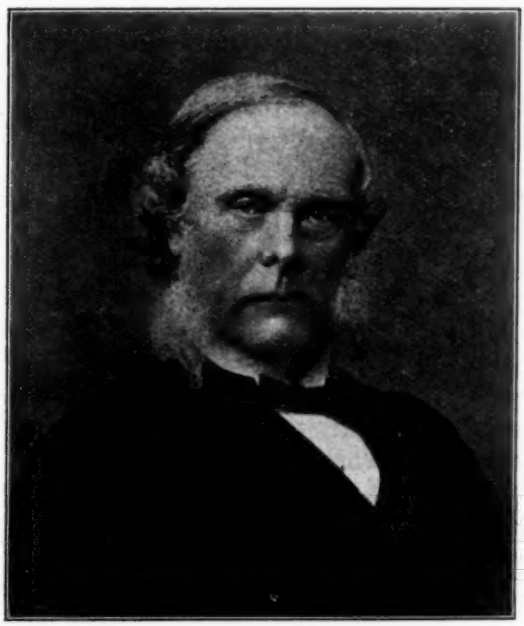
THE APPLICATION OF POTASSIUM IODIDE-MERCURIAL OINTMENT [*Military Vet. Lanceleur*].—Five grammes of potassium iodide are rubbed up to a fine powder in a mortar and sufficient glycerine added to form a solution. To this solution is added 20 grammes of mercurial ointment. This preparation must be freshly prepared when required for use. Before this remedy is applied the hair must be cut off the part, then a quantity of the ointment smeared over the surface with the fingers and then rubbed in briskly with a hard tampon for at least five minutes. Twelve hours later small vesicles appear. There is no irritation present. The slight swelling soon disappears, the epidermis exfoliates, and in about 10 days resolution sets in. This ointment is particularly recommended for haematoma of the knee and tumors resulting from pressure. After 3 or 4 applications deep-seated cysts are cured and in tendinitis much better results are obtained from its use than after severe blisters. In order to effect a cure it will be necessary to repeat the application every sixth or seventh day.—(*Berliner Tieraerztl. Wochenschr.,* No. 37, 1911.)

DR. LEECH TOO GOOD AN INSPECTOR TO SUIT DAIRYMEN—The Winona Daily *Republican-Herald* and the Winona *Independent* of March 5 contained articles to the effect that the dairymen supplying milk to that city were going to discontinue bringing their milk to Winona unless Dr. G. Ed. Leech was removed from the position of City Milk Inspector, on the ground that they did not like his personality. In the same paper Health Officer Donald B. Prichard, under whom Dr. Leech works in the interest of the city of Winona, spoke very highly of the doctor's ability, and explained that the dairymen's *real* grievance was that they wanted to have a veterinarian of *their* employ inspect their dairies and their milk instead of one in the city's employ. He did not think, however, there was much fear of their discontinuing to bring in their milk.

OBITUARY.

JOSEPH LISTER, M.B., F.R.C.S. (Eng.).

We regret to announce that the Right Hon. Lord Lister, O.M., died from an attack of pneumonia on Saturday, February 11, at Walmer, in his eighty-fifth year, after an illness of four days. Joseph Lister was born at Upton, in Essex, in 1827, his father, Joseph Jackson Lister, F.R.S., being the inventor of the achromatic microscope. He was educated at a Quaker school in Tottenham, and in this connection it is interesting to note that



LORD LISTER.

the Prince of Wales' General Hospital (then known as the Evangelical Protestant Deaconesses' Institution, Tottenham, or the Tottenham Hospital) was the first hospital in London to apply the Listerian treatment. He had lived from childhood in an atmosphere of scientific research, and began his studies on the medical side of the college with unusual qualifications for pursuing

them to advantage. He became M.B. at the London University in 1852, and in the same year took the F.R.C.S. (Eng.).

After holding office for a time as a resident assistant in University College Hospital, Lister went on an autumn holiday to Scotland, taking, among other letters of introduction, one from Professor Sharpey to Professor Syme, then at the height of his reputation as a surgeon. He saw at Edinburgh so much that was important and instructive that he obtained permission from his father to extend his stay, and he remained, first as a supernumerary dresser under Mr. Syme, and afterwards as his house surgeon. On resigning his post, in 1856, he married Mr. Syme's daughter, and was soon afterwards appointed assistant surgeon to the Edinburgh Royal Infirmary. In this position he began to teach, as a private lecturer on surgery recognized by the university, and continued to do so until his appointment to the chair of surgery in the University of Glasgow in 1860. He had already contributed a series of important papers to the Royal Society—papers chiefly based upon microscopical research—and in 1860 he was elected a fellow. In 1863 he was appointed by the society as Croonian lecturer, and selected as his subject "The Coagulation of the Blood." About the same time he was a contributor of the articles on "Anesthetics" and on "Amputation" to "Holmes' System of Surgery," and had written other papers of very considerable merit.

In the early sixties Lister became acquainted with the work of Pasteur, whose two great hypotheses—that putrefaction is caused by the agency of living germs, and that these germs are not spontaneously generated—Lister made his own and converted to unthought-of uses, with what results are well known, not only to the whole medical profession, but also to the whole civilized world. Focussing his giant intellect upon the one great object, how to protect wounds from germs of inflammation, he devised the carbolic spray and carbolic gauze, or the Listerian bandage, as it was then called. The effects upon surgical mortality were striking and immediate, no such curative results having been previously obtained. In consequence, operations of much greater magnitude were undertaken with confidence by surgeons which formerly none would have dared to perform. The system soon spread, and was speedily taken up in Germany, as well as in this country. Another great advance in surgical art is also associated with Lister's name—the use of the absorbable catgut ligature, which he introduced as a substitute for the silken or flax thread

hitherto exclusively used. The work, which had been commenced in Glasgow, was transferred to Edinburgh in 1869, Lister in that year succeeding his father-in-law, Professor Syme, in the chair of clinical surgery in the university of the last-named city. In 1877 an opening was made for him at King's College, London, and he consented to go there as professor of clinical surgery, a post which he held until 1893, by which time his work was practically done, and the splendid service which he had rendered to mankind could no longer be questioned or concealed. The honors that awaited him were, perhaps, of little importance compared to his high services, but they were never more justly bestowed. On Mr. Gladstone's recommendation he was, in 1883, made a baronet, and in 1897 he was raised to the peerage. In 1902 he was appointed a member of the newly instituted Order of Merit, as well as a privy councillor. From 1895 to 1900 he was president of the Royal Society. He was sergeant-surgeon to Queen Victoria and to King Edward, and has been president of the British Association for the Advancement of Science. His other scientific distinctions would require more than a column for their mere enumeration.

Lady Lister, to whom he was devotedly attached, died in Italy in 1893, and he leaves no heir.—(*Veterinary News.*)

C. W. JOHNSON, D.V.S.

Dr. C. W. Johnson was born at Elburn, Ill., in 1855 and spent the early part of his life on a farm, later becoming a student of pharmacy and subsequently a practicing pharmacist. In 1885 he began the study of veterinary medicine at the Chicago Veterinary College, receiving the degree of D.V.S. in 1887. Dr. Johnson practiced for a time in northern Illinois, when he entered the service of the Bureau of Animal Industry in which he continued for ten years, serving in Omaha and Chicago. When the army was reorganized after the Spanish-American War, Dr. Johnson was transferred from the Bureau of Animal Industry to the Subsistence Department of the Army, where he continued, doing duty at Chicago almost exclusively, until the time of his death December 29, 1911, serving the Government in all about twenty years, during which time he gained an enviable reputation as an inspector; capable, exacting, careful. About eight or nine months prior to his death, his failing health becoming apparent, he was

ordered down to the maneuver camp, San Antonio, Texas, to inspect army supplies. Growing worse he was placed in the maneuver camp hospital, and afterward in the Army Hospital, St. Elizabeth, Washington, where he died. Being a mere citizen under our present system, although giving twenty of the best years of his life to the Government, a goodly part of it in the Army, his pay was stopped soon after he entered the hospital. Think of the injustice and hardship to his family, and awaken to the position of your brother veterinarians in the Army.

NATHAN M. DRAKE, Ph.G., D.V.S.

Nathan M. Drake, of 1308 Morris street, Philadelphia, Pa., passed away February 26, 1912, from cirrhosis of the liver.

Dr. Drake had been in practice in Philadelphia for more than twenty-one years. Prior to entering the veterinary profession he had been a practicing pharmacist for more than twenty years. He graduated from the American Veterinary College, New York City, in 1890, and after one year's practice in Brooklyn, came to Philadelphia and continued in active practice until a few weeks before his death.

He was considered by a large clientage as one of the most successful diagnosticians in his profession, and with his brother enjoyed a large and successful practice in the southern part of the city.

Born in northern New Jersey in 1855, he was in his fifty-seventh year. His remains were taken to his old home for interment.

PARTICULARS WANTED.—" Yes, that's Dr. Bloggs."

" Allopath, homeopath, horse, or divinity? "—(*Indianapolis Journal.*)

Dr. G. J. COLLINS, West Point, Neb., in renewing his subscription, says: " The REVIEW must be received regularly to be appreciated."

DR. M. J. SMEAD, of Yale, Mich., says of the AMERICAN VETERINARY REVIEW: " Every copy is a feast of good things and I could not possibly be without it."

THE North Dakota Veterinary Association held a splendid meeting at Agricultural College in January. Secretary Babcock's report of it appears on page 127 of this issue.

CORRESPONDENCE.

THE CAUSES OF MARKED VARIATIONS AT BIRTH.

BARBADOS, W. I., February 25, 1912.

The Editor of the AMERICAN VETERINARY REVIEW:

One of the fundamental principles of organic evolution is as to the cause or causes leading or giving rise to variation at birth. It is fundamental, since all progress in organic evolution is dependent on the appearance of such variations. Now, I hold that marked variations—not monstrosities which are pathologically produced—are due to certain extraordinary features in the environment acting on the organism, when in young, and that through the nervous system, such an influence is reflected on to the embryo, leading to such a characteristic variation at birth. In order to establish my position, I solicit the aid of veterinarians by a process which is simple and easily carried out. So far I have succeeded in this way: Learning from my mother that my father (dead) had produced tailless pups, by striking the tail of the bitch when in young, with the side of the hand as if to sever the tail, while she was soundly asleep, I tried the experiment with a cat, in no way connected with a tailless breed, and succeeded in getting two tailless young ones, one with a tail broken at that point and one with a normal tail. My success induced a friend of mine to try the experiment, which also succeeded. As the experiment, if successful beyond all doubt, will settle, once for all, perhaps the most important question in biology, I solicit the aid of the veterinary profession in settling the question, and I ask that the results of all such successful experiments, fully certified, be published in the pages of the AMERICAN VETERINARY REVIEW. Trusting that the importance of the question will attract the attention of your readers and gain their co-operation, I am sir,

Yours truly,

R. F. LICORISH, M.D.

SOCIETY MEETINGS.

CONNECTICUT VETERINARY MEDICAL ASSOCIATION.

The annual meeting of this association was held in Hartford, at the Garde Hotel, Tuesday, February 6, 1912. The president being late the meeting was called to order by First Vice-President Dr. Underhill, at 11 a. m. The following members responded to roll call or came in soon after: Drs. Thos. Bland, H. E. Bates, F. F. Bushnell, H. C. Balzer, Chas. H. Beere, Geo. T. Crowley, G. E. Corwin, Jos. M. Curry, Geo. L. Cheney, B. K. Dow, P. F. Finnigan, T. A. Gilyard, L. B. Judson, V. M. Knapp, P. T. Keeley, G. W. Loveland, R. D. Martin, G. H. Parkinson, B. D. Radcliff, W. J. Southey, J. E. Underhill, H. Whitney, C. R. Witte. Honorary member, H. O. Averill.

Visitors—Hon. Abner P. Hayes, Prof. H. W. Conn, A. W. Sutherland, V.S., and John J. Moynahan, B.V. Sc.

Minutes of the previous meeting were read and approved. Several communications were read and laid on the table to be taken up for consideration later in the meeting. Reports of the secretary and the treasurer were read and accepted by vote.

At 12 m. it was voted to adjourn for lunch. Meeting reconvened at 1:30 p. m.

Applications for membership—John Joseph Moynahan, B.V. Sc., V.S., Ontario Veterinary College, 1910; vouchers: Thos. Bland, V.S., and P. F. Finnigan, V.S. A. W. Sutherland, V.S., Ontario Veterinary College, 1908; vouchers: B. D. Radcliff, M.D.C., and Thos. Bland, V.S. Edward R. Dimock, D.V.S., Kansas City Veterinary College; vouchers: B. K. Dow, V. S., and Grove W. Loveland, M.D.C. Applications were referred to the Board of Censors.

Officers elected—President, Dr. J. E. Underhill; first vice-president, Dr. H. Whitney; second vice-president, Dr. G. T. Crowley; secretary, Dr. B. K. Dow; treasurer, Dr. Thos. Bland; board of censors, Drs. G. W. Loveland, W. J. Southey, P. T. Keeley, V. M. Knapp, F. F. Bushnell. Dr. Underhill took the president's chair and made a short address thanking the members

for the honor which they had conferred on him by electing him president; and that he would endeavor to perform the duties of the office to the best of his ability, and would work with the members to advance the interests of the association and elevate the standing of the profession.

Prof. H. W. Conn, director of the laboratories of the State Board of Health, gave a very interesting and instructive address on the complement-fixation test for glanders. He answered many questions and invited the members to visit the laboratory and witness the test. He was given a rising vote of thanks for the address.

Under the head of new business, several letters were read in regard to a bill before Congress to consolidate the veterinary service, United States Army, and to increase its efficiency. As several of the members had already given the matter consideration and had assurance from their members of Congress that they would support the bill, and where no promises of support were received, they stated that they would give the matter careful consideration, it was thought that no special action of the association would be of any assistance at the present time, as the individual members, who were in touch with the situation said they would do everything possible if anything developed where more work could be done.

A letter was read from the manager, Mr. Rasmussen, of Pasteur Laboratories of America soliciting funds for the erection of a monument to the late Prof. S. Arloing. As the letter stated that the A. V. M. A. had donated $100 some of the members thought that if this association should contribute $5 to the fund it would be equal in proportion, and about all that it could afford at the present time, though it is a worthy cause and should be assisted as much as possible. It was, therefore, voted to contribute $5 to the fund.

Hon. Abner P. Hayes, attorney at law, was requested to express an opinion on certain sections of the law regulating the practice of veterinary science in Connecticut, which he did, answering several questions relating to employment of unlicensed men by veterinarians that were registered under the law. The discussion brought out some important points in regard to tuberculin testing of cattle, under the new law, that are brought into the state or tested to go out of the state. Mr. Averill, Commissioner on Domestic Animals, stated that he was very careful in ascertaining who are qualified to make the test, and that he would

not officially approve of an unqualified or dishonest veterinarian's test.

During the discussion of the laws relating to sanitary control work in the state, the matter of charges against Commissioner Averill, for incompetence, misconduct and material neglect of duty in his official conduct, which were pending before the Governor, many of the members felt that their professional reputation had been indirectly attacked, and freely expressed their opinion as to why the charges had been made. As Dr. Whitney, who enjoys the confidence and respect of *every* member of the association, was directly concerned, the following resolutions were presented and unanimously adopted:

Whereas, One Frank G. Atwood has preferred charges against the Commissioner on Domestic Animals, for the State of Connecticut, alleging, among other charges, that the Commissioner of Domestic Animals has been derelict and negligent in the employment of Dr. Harrison Whitney, a member of this association, to investigate certain alleged cases of glanders, and further alleging that the said Dr. Whitney, in the examination of said cases and in the performance of his professional duty, has been negligent in the same and alleging that the said Dr. Whitney, while so employed by the Commissioner on Domestic Animals, failed to exercise proper professional skill and reasonable care and diligence in the investigation and treatment of numerous alleged cases of glanders, and

Whereas, The said Dr. Harrison Whitney is a former president of this association and is known to this association, as a man of high professional skill and attainments as a veterinarian, and a gentleman of unimpeachable integrity, now, therefore, be it

Resolved, By the Connecticut Veterinary Medical Association that this association desires to place on record an expression of its absolute confidence in the professional skill of Dr. Harrison Whitney, a former president of this association, and to further express our complete confidence in his integrity as a man, and in his fidelity to all matters entrusted to his professional skill and care, and be it further

Resolved, That this association deprecates and condemns such attempts as have been made to reflect upon his professional skill and standing or upon his personal integrity and probity, confident that the examination and investigation of said charges will disclose that said charges were made as a result of prejudice or ignorance and without any probable or justifiable cause, and be it further

Resolved, That the secretary be instructed to forward a copy of this resolution to the Commissioner on Domestic Animals.

A bill for flowers for Dr. Kelley's funeral was presented and ordered paid.

It was voted that Drs. Whitney, Loveland and Bland be selected as a committee to draw up resolutions on the death of Dr. James H. Kelley, an ex-president of the association. The following resolutions were later presented by the committee.

Whereas, Divine Providence has called home our professional brother and our personal friend Dr. James H. Kelley, one who was endeared to every member of this association, now, therefore, be it

Resolved, By The Connecticut Veterinary Medical Association:

In the untimely death of our brother Dr. James H. Kelley, stricken down, as he was, in the healthy vigor of a robust and noble manhood, at the very zenith of his physical and mental powers, as a result of his unfaltering devotion to his duty and to the high calling which he had chosen as his profession, his passing brings home to his professional brethren a sense of irreparable loss, and as an expression of its sorrow and as a permanent record for all time to come this association desires to place on record its tribute to his life and memory.

In his social life he was a warm and generous friend. He literally and truly loved his fellow men. His heart ever throbbed with sympathy for the afflicted and distressed. His purse was ever open to relieve those in need and his charity was so broad that of him it might be truly said: "All mankind was his brother." In his social intercourse and companionship with his personal friends and professional associates he was a veritable prince. None knew better than he the subtle art of genuine hospitality.

In his religious life he was not prone to voice his convictions. To him religion was a sacred personal relation between him and his Maker, finding practical expression in the Golden Rule.

In his professional life he was the devoted servant of his avocation. To him the musty tomes of the great veterinary authorities were his intellectual companies and in them he found the workhouse in which his intellectual aspirations reveled. In the treatment of his case he summoned the highest professional skill at his command, and his sympathy and commiseration of the sick, dumb beast was only excelled by his sympathy for man himself. With his professional brothers he was the ideal prac-

titioner, always respectful of the opinions of his associates, ever ready to apply the suggestions of technical skill without the vaunting pride of personal opinion.

Never by word or act did he do aught to harm or injure his fellow practitioners. Of his own skill he was prodigal and no young veterinarian ever sought his advice in vain.

But the fatal and inexorable shaft has stricken him down in the full vigor of a yet strenuous manhood. The human activities in which he had borne so large a part seem incomplete. But as of old in reference to the painter, "What Titian left unfinished Palma reverently completed and dedicated to God." So may our association find, when one of its members leaves his work unfinished another will take it up and dedicate it to God and his fellow men, and be it further

Resolved, That a copy of these resolutions be forwarded to the family of our deceased brother and that they be spread upon the records of this association.

Signed,
H. WHITNEY,
G. W. LOVELAND,
THOS. BLAND,
Committee.

It was voted to elect Hon. Abner P. Hayes an honorary member, in consideration of the many favors which he had freely given to members and to the association in a general way.

After talking over several matters, in an informal way, which concerned the association, it was voted to adjourn until the semi-annual meeting, which should be arranged for by the president after he had time to consider invitations extended by different members to hold the meeting in their city.

B. K. Dow, Secretary.

INDIANA VETERINARY MEDICAL ASSOCIATION.

The sixteenth annual meeting of the above association was held at the Denison House in Indianapolis, January 10, 1912.

Meeting called to order at 9.30 a. m. by the president, Dr. T. M. Sigler. After the address of the president, the minutes of the previous meeting were not read, as a printed report had been published. The report of the secretary, Dr. E. M. Bronson, was read and approved, as was also the report of the treasurer, Dr. J. W. Klotz. Following this, the chairman of the

committees on programme, entertainment and publication made their reports, and all were approved. Following this, was a report of the chairman of the legislative committee, Dr. C. I. Fleming, reviewing the work of the committee in the last session of the legislature and the passage of our present veterinary law, the many obstacles they had to overcome, and some of the concessions they had to make in order to secure the passage of the bill. One of these was the "eight-year" clause; and the consensus of opinion of the association members present was that this will work no hardship on anyone, as most all these men were already practicing, and that the law, while not perfect, was a step forward for the veterinarians of Indiana, and that the veterinarians (graduates) of this State have reason to be proud of the law and of the men who worked so faithfully to secure the passage of it, contributing both time and money. A motion was carried to repay those that were out considerable of their own money after their contributions.

Following the report of the legislative committee, the association proceeded with the regular order of business, the next being the admission of new members. Fifty-one (51) were admitted; this being the "banner year" for us. (Wonder if the coming A. V. M. A. meeting wasn't responsible for most of this?)

Following was the election of officers, which resulted as follows: Dr. W. J. Armour, of Goshen, President; Dr. J. G. Heighway, of Ladoga, Vice-President, and Dr. A. F. Nelson, of Lebanon, Secretary. Board of Censors: Dr. O. L. Boor, of Muncie; S. G. Fehrling, of New Richmond, and E. M. Bronson, of Hartford City.

At the afternoon session, which convened at 1.30 p. m., the following papers were read and discussed:

"Professional Ethics in Veterinary Practice," Dr. D. K. Buzzard, Goshen, Ind. (This was an excellent paper and should have elicited a liberal discussion; but it seemed that the members considered that Dr. Buzzard had covered the ground so thoroughly that there was not much to add.)

"Antiseptics," Dr. A. B. Carter, Covington, Ind. (This was also an excellent paper, but failed to elicit any discussion.)

"Bacterins," Dr. L. C. Kigin, Rushville, Ind. (Dr. Kigin was so familiar with his subject that he needed no notes; but gave an interesting talk, which was followed by a lively discussion.)

"The Efficiency of Hog-Cholera Serum," Dr. R. A. Craig, of Purdue University, LaFayette, Ind. (This was handled by Dr. Craig in his usual masterly manner, and a liberal discussion followed, as this is a subject that is of vital importance to the veterinarians of this State. Dr. Craig's paper made the subject clear to veterinarians that had not had experience in the use of serum, or were not familiar with the methods used in the preparation of serum. He also reviewed in detail the different types of cholera, the lesions that are usually present in the different types, and the method that is followed at the station to keep up the potency of the serum.)

Evening Session.

"Obstruction of the Small Intestines," Dr. H. A. Miller, Paragon, Ind. (This paper created a good discussion, and will no doubt throw much light on some cases that have puzzled many veterinarians, especially those that have failed to hold autopsies.)

"Federal Control of Infectious and Contagious Diseases as it Relates to Transportation, Disinfection of Cars, Yards, etc.," Dr. Fred. Braginton, Indianapolis, Ind. (This paper was not given in in time to get it in the printed program, but was a clear, concise report of the work as it is carried out by the B. A. I. and was no doubt a source of valuable information to those present not familiar with the work.)

"Tetanus Antitoxin," Dr. F. H. Brown, Knightstown, Ind. (This paper, of course, elicited a lively discussion; and several interesting stories were told as to the effects—or supposed effects—of large doses of Tetanus Antitoxin, as they had found it in the field.)

"The Jackass, His Peculiarities, Ailments and Treatment," Dr. T. A. Sigler. (This subject was handled by the doctor without notes or gloves, stating that he was like Sis Hopkins in the play. When asked as to whether she knew anything about hogs, she replied, "I ought to, as I was raised with them." The doctor stated that he was raised with the jackass, and that they used them for alarm clocks down on the farm. He discussed the treatment of summer sores and various other ailments that are peculiar to the jackass, and in speaking of the "jack," compared him in some respects to the colored man. Keep him in good spirits, and he will live forever; but when he

gets sick he thinks he is going to die. The doctor stated that literature on the ailments of the "jack" was very scarce, and for that reason he had not much to refer to, in searching for information. He stated that they are particularly susceptible to catarrhal conditions, colds, pneumonia, etc., but that he has had fair success in treating them.)

Following this, the association referred back to the admission of members, and Dr. F. A. Bolser proposed the election of Dr. T. B. Love, of New Albany, Ind., as an honorary member. Drs. Geo. H. Roberts and E. M. Bronson seconded the nomination. The doctor (T. B. Love), while not a graduate, is one that has always been ready with his time and money to help the profession any time there was a call for help.

In placing his name before the association, Dr. Bolser said: "I want to move that the honored guest that sits at the head of the table to-night, who says—and I believe truthfully—that he is the oldest practitioner in the State, be made an honorary member of this body."

Dr. E. M. Bronson said: "I have had this thought in mind for the past several meetings, but other matters have crowded it out until the opportunity had gone by. I am not ashamed, however, to get up and second Dr. Bolser's motion. There is one of the old-school veterinarians, but one who has the respect of every associate practitioner of veterinary medicine around him, and one who has complied with the laws of the State, and one whom it is an honor to have closely associated with us." Motion carried unanimously.

Dr. Love, in replying, said: "Gentlemen, as you have seen fit to take me in with your body, I want to say that I appreciate it with all my heart. I feel that I want to be with the veterinarians. I shall not be here long, but I want to be active while I am here, and I wish to assure you that I will cause no stain on this association while I am connected with it."

Met at 9.30 a. m., January 11, at Indiana Veterinary College, on East Market street, for clinics in charge of Dr. J. W. Klotz. Among the subjects and operations were:

No. 1. Subject Mule—Poll Evil. Operators: Dr. T. A. Sigler and Dr. W. J. Armour. Animal was cast, and restraint used was hopples. Hemorrhage controlled by actual cautery.

No. 2. Subject Mule—Tumors of Scrotum, Sheath and Prepuce. Operators: Dr. T. M. Hall and Dr. T. A. Sigler. Restraint: cast and hopples used. Removal of tumors by dis-

section and chemical cauterization of the surrounding tissues.

No. 3. Subject Gray Gelding—Roarer (12 months' standing). Operator: Dr. J. W. Klotz, assisted by several others. General anaesthesia, method used that of Professors Williams and Hobday; removal of mucous membrane of the ventricle by incision through the crico-thyroidean ligament.

No. 4. Subject Gray Gelding. Furnished by Dr. Geo. H. Roberts. Previous history: Brought in some time ago suffering from pleurodynia. The animal soon after developed circulatory trouble. Dr. T. M. Hall and Dr. Chas. Morris were appointed to diagnose the case, which they pronounced a case of myocarditis with valvular complications.

At 12 noon clinics adjourned for luncheon, furnished on the grounds by the college.

Clinics resumed at 1.30 and continued until 3.30, during which time several interesting cases of lameness and operative subjects were disposed of, when the association was again called in session to act on some matters that had been passed over for the time being. Adjournment followed, to meet January 15 and 16, 1913, in the annual session.

This meeting, I believe we can truthfully say, was the greatest in every respect that the association has ever held; in attendance, in the interest shown by each member, in the number of new members and in the spirit manifested by every one, to try and entertain to the best of our ability the AMERICAN VETERINARY MEDICAL ASSOCIATION when they meet with us in August. And we believe that every member went home with the resolution in his mind to assist in every way possible to make the visitors feel that we appreciate their choice of Indianapolis as the place for their *forty-ninth annual meeting.*

As the local committee and place of meeting have already been announced in your columns, I do not presume it necessary to take up your space with that, but will say that Dr. Geo. H. Roberts, as *chairman of the local Committee on Arrangements,* will furnish any information in regard to that. (Do not tell him that I said he would, or he will be hunting up something for me to do.)

Our President (State Association) Dr. W. J. Armour, District National Secretary Dr. J. W. Klotz, Vice-President Dr. J. G. Heighway, or myself will at all times be ready to give any information we can to anyone.

A. F. NELSON, Secretary.

MISSOURI VALLEY VETERINARY MEDICAL ASSOCIATION.

With an unprecedented attendance and more than the usual enthusiasm the semi-annual meeting of the Missouri Valley Veterinary Medical Association, at Kansas City, January 30 to February 2, inclusive, was the most fruitful in the history of the organization. Interest centered around the discussion of the so-called cornstalk disease, the production, marketing and use of anti-hog-cholera serum and the demonstrations of the intradermal and ophthalmic tests. Following is the program, which was carried out in full:

Tuesday, January 30, at the Coates House, at 10 a. m.—"Several Cases on the Same Farm," Dr. J. H. MacCartney, of Joplin, Mo.; "Arecoline Hydrobromide," Dr. J. Harvey Slater, of Richmond, Mo.; "Choice of Cathartics in Equine Practice," Dr. H. Jensen, of Kansas City, Mo.; "Colic Cases Which Proved Fatal," Dr. W. H. Spencer, of Yates Center, Kan.; "Elimination," Dr. Herbert F. Palmer, of Chicago, Ill.; "The Relation of the Laboratory Man and the Practitioner," Dr. C. E. Salsbery, of Kansas City, Mo. At the Kansas City Veterinary College, at 8.00 p. m.—Reception by the Kansas City Veterinary College Medical Association.

Wednesday, January 31, at the Coates House, 9.00 a. m.—"The Embryologic Explanation of Some Common Malformations," Dr. R. F. Bourne, of Kansas City, Mo. (discussed by Dr. A. T. Kinsley, of Kansas City, Mo.); "Forage Poisoning, Prof. Thomas P. Haslam, of Manhattan, Kan. (discussed by Dr. A. T. Kinsley, of Kansas City, Mo., and Dr. J. S. Anderson, of Seward, Neb.); "Cornstalk Disease of the Horse," Dr. J. C. Humphreys, of Laredo, Mo.; "Report of Cases," Dr. W. B. Welch, Marshall, Mo.; "Report of Cases," Dr. H. Bradley, Windsor, Mo. At 7.00 p. m. at the Coates House.—The annual dinner; "Sanitary Inspection of Kitchens and Food Storage in Restaurants and Hotels," Dr. H. DeLamater, Deputy Health Commissioner of Kansas City; "Weights and Measures in Relation to Sanitary Inspection Service," Mr. Alban G. Compton, Inspector of Weights and Measures of Kansas City; brief talks were made by Dr. R. C. Moore, of Kansas City; Dr. M. H. Reynolds, of St. Paul, Minn.; Dr. J. C. Robertson, of Chicago, Ill., and Dr. W. H. Dinwiddie, of Fayetteville, Ark.

Thursday, February 1, at the Kansas City Veterinary College,

Clinic at 9.00 a. m.—" Hog Cholera," Dr. F. W. Hueben, of Kansas City, Kan.; " Demonstrations of Lesions of Hog Cholera and Other Swine Diseases," Dr. A. T. Kinsley, of Kansas City, Mo. (discussed by Dr. M. H. Reynolds, of St. Paul, Minn.; Dr. A. T. Peters, of Springfield, Ill.; Dr. J. I. Gibson, of Des Moines, Ia., and Dr. J. W. Connoway, of Columbia, Mo.); " Intradermal Tuberculin Testing," Dr. D. F. Luckey, of Columbia, Mo. (discussed by Dr. L. D. Brown, of Hamilton, Mo.; Dr. G. Ed. Leech, of Winona, Minn.; Dr. H. C. Tuck, of Morrisville, Mo., and Dr. G. C. Babb, of Topeka, Kan.). Lunch was served in the college building at noon to veterinarians and lady visitors. Veterinarians and ladies enjoyed a theatre performance at the Orpheum Theatre at 8.00 p. m.

February 2, at Swift & Co.'s Plant.—Forty head of cattle, which had been given the intradermal test, and fifty-eight head which had been given the ophthalmic test were slaughtered and post-mortem examination made.

The chief paper presented on Wednesday was that of Prof. Thomas P. Haslam, pathologist of the experiment station at Manhattan, Kan., on " Forage Poisoning." Professor Haslam advanced the theory that the so-called cornstalk disease is caused by a mould, but that the mould became pathogenic only when the foodstuff upon which it appears contained certain chemic substances. Numerous experiments conducted by the Kansas experiment station were offered in support of the theory. Dr. A. T. Kinsley, pathologist of the Kansas City Veterinary College, supported the theory of Professor Haslam, citing the relation of the pneumococcus to pneumonia as analogous. That there was widespread interest in the topic was evident from the fact that the discussion of it extended over the greater part of the day.

In his address at the dinner on Wednesday evening Dr. DeLamater made some flattering references to the work of the veterinarians in his department, and called attention to the fact that none of the cities is willing to pay enough salary to secure the best men in the health departments.

The clinic in the Kansas City Veterinary College amphitheatre on Thursday proved to be highly interesting. Dr. F. W. Hueben's paper on hog cholera, with the subsequent demonstrations of cholera lesions, drew out a comprehensive discussion of serum therapy. Dr. H. M. Reynolds, dean of the veterinary department of the University of Minnesota, presented some very

interesting statistics on serum therapy and urged the collection of a collection of a greater colume of figures on this important field of veterinary practice. Dr. A. T. Peters, bacteriologist of the Livestock Sanitary Board of Illinois, and Dr. J. I. Gibson, State Veterinarian of Iowa, originated a lively debate relative to the control of shipments of cholera virus. It developed the sense of the association to be that State officials should control every drop of cholera virus shipped into or within the State.

The paper on "Intradermal Tuberculin Testing," by Dr. D. F. Lucky, former State Veterinarian of Missouri, which was supplemented by a practical demonstration of methods employed in giving the test by Dr. D. L. Brown, Deputy State Veterinarian of Missouri, proved attractive, in view of the demonstrations then being conducted by the association. Dr. Luckey stated that as State Veterinarian he had employed the intradermal method in several thousand head with 98 per cent. correctness. He directed attention to great saving of time and labor it afforded and to the duration of the reaction.

The following morning ninety-eight head of cattle were slaughtered at Swift & Co.'s plant and autopsies conducted to determine the correctness of the intradermal and ophthalmic tests. The cattle were very kindly purchased by Swift & Co. and turned over to the association for the demonstration. Forty head were given the intradermal test on Tuesday morning. To thirteen head of the forty the subcutaneous test had been previously given. The same animals reacted to both tests and post-mortem examination showed sufficient lesions to make a diagnosis positive of tuberculosis.

Fifty-eight head were given the ophthalmic test on Wednesday afternoon. Thirty-three head of the fifty-eight had previously been subjected to the subcutaneous test. Six head reacted to the ophthalmic test and two of the six had reacted to the subcutaneous test. The two latter showed diagnostic lesions, and all but one of the other four which had reacted to the ophthalmic test showed sufficient lesions for diagnosis. This one was held for careful subsequent inspection, the results of which are not yet known. One of the ocular reactors showed lesions in the liver only and at only one small focus there, which is interesting when considered with reference to the sensitiveness of the test.

The following table shows the results of the test in percentage:

	Subcutaneous.		Intradermal.		Ophthalmic.	
Correct positive results	3		1		5	
Correct negative results	40		39		52	
Total correct results	43		40		57	
Percentage correct results		93.47		100		98.27
Incorrect positive readings	..		..		1	
Incorrect negative readings	3		..		..	
Total incorrect readings	3		..		1	
Percentage incorrect readings		6.52		..		1.70
Animals tested	46		40		58	

The tests were conducted by the Bureau of Animal Industry, in conjunction with the State officials of Missouri. Dr. J. W. Washburn, assistant pathologist to the Bureau of Animal Industry, had entire charge of the work. He was assisted in the tests by Dr. L. D. Brown, Assistant State Veterinarian of Missouri, and under Dr. Washburn's direction the post-mortem examinations were conducted by Dr. James Fleming, inspector in charge at Kansas City, assisted by his corps of inspectors. Every precaution was taken to safeguard the accuracy of the tests, and the post-mortem examinations were very carefully conducted.

In point of attendance the meeting was the greatest in the history of the Missouri Valley Association, there being present more than two hundred and fifty veterinarians and over four hundred other visitors and students. There was such close attention to the program that the local committee was taxed at times to find seats enough. The debates were lively, and carried enough humor to make them entertaining.

There was a large influx of new members, some thirty-odd being elected during the meeting. Following is a list of the members elected at the meeting:

Several important resolutions were adopted, chief among which were the following:

To indorse the Army Veterinary bill and urge its passage by the present Congress.

To amend the constitution raising the dues to two dollars to cover the publication of the association's proceedings.

To urge a law providing for the inspection of laboratories which produce biologic products.

To amend the constitution that applicants for membership must supply evidence of membership in their respective State

associations and that they are in good standing to be eligible for membership in the Missouri Valley Association.

VETERINARY ASSOCIATION OF MANITOBA.

The annual meeting of the above association was held in the Council Chamber of the City Hall, Brandon, on Tuesday, March 5, at 9 a. m.

The president, Dr. S. A. Coxe, occupied the chair, and the following members were present: S. Robinson, W. E. Martin, W. R. Taylor, J. McDougall, W. H. T. Lee, M. B. Stiver, J. J. Kelliher, M. J. Preston, W. Leslie, J. Mack, W. A. Dunbar, C. D. McGilvray, I. B. Irwin, F. Torrance, H. Bradshaw, W. H. Smith, L. Young and E. M. Coombs.

The reports of the auditors and of the secretary-treasurer and registrar showed that the affairs of the association were progressing satisfactorily in most respects, but that the reserve fund had been seriously depleted by several unusual expenditures during the past three years. Some discussion ensued as to how this state of affairs could best be remedied, and it was finally decided that the annual fee should be raised from two dollars to four dollars.

The election of officers resulted as follows:

President, Dr. W. R. Taylor, Portage-la-Prairie.

Vice-President, Dr. C. D. McGilvray, Winnipeg.

Secretary-Treasurer and Registrar, Dr. F. Torrance, Winnipeg.

Examiners, Drs. W. E. Martin, C. D. McGilvray and F. Torrance.

Members of the Council, in addition to the above—Drs. S. A. Coxe, T. C. Lee and Henry Bradshaw.

It was decided to hold the semi-annual meeting in the city of Winnipeg, in the Agricultural College, during the Midsummer Fair. The annual meeting will also be held during the coming year in Winnipeg.

Dr. Lee brought to the notice of the members a recent experience of his, in which he had accidentally used sulphuric ether, instead of cocaine solution, when injecting a local anaesthetic for the operation of firing. The horse stood the operation much better than is usually found when cocaine is injected. There was absolutely no indication of feeling in the part, and the doc-

tor was surprised to find out that it was not cocaine he had been using.

A paper by Dr. Stanley Martin on "Enterectomy and Anastomosis of the Intestine of the Dog" was, in absence of the essayist, read by Dr. Dunbar.

After some discussion Dr. McGilvray presented an interesting paper upon "Hog Cholera," in which he described outbreaks that he had seen and measures taken to suppress them.

Following this, the members discussed the subject very thoroughly, and some interesting points in connection with the diagnosis of the disease were elicited.

Dr. Martin asked if the essayist considered that the outbreak of disease had any connection with the invasion of rats.

Dr. McGilvray replied that he did not think that rats would have been responsible for the recent outbreak. The fact that there were no rats known to be at Kenora, where there was an outbreak, renders this theory entirely untenable.

Dr. Coxe asked if there was any one diagnostic symptom that could be depended upon—any lesion that was always present? And he also suggested that it might be well if the Department of Agriculture would notify the practitioners of any outbreaks of disease.

Dr. McGilvray replied that as a servant of the Department he was obliged to carry out the policy that was imposed by those above, and although he might feel disposed to give information that was possible, still he had to recognize the fact that publicity was not always desirable. The livestock industry might easily be affected by rumors originating from information carelessly given out. As regards diagnostic symptoms, he said that no one lesion could be depended upon, with the exception of the characteristic ulceration of the bowels, but, unfortunately, this condition is not seen except in chronic cases. The speckled color of the kidneys is also an indication, but he considered the appearance of the lymphatic glands more characteristic than this. These were swollen and dark red and had been likened to "strawberries with pimples on them." Ulceration of the bowels is usually found about the ileo-caecal valve, and the observer must not be confused by the appearance of the group of glands surrounding this part. Diagnosis is difficult in many cases; sometimes it is necessary to quarantine for a time before a diagnosis can be reached.

Dr. Dunbar said that he had listened with great interest to

the remarks that had been made and congratulated the essayist upon the excellence of the paper which he had presented to the meeting. He had seen the first outbreak of hog cholera in Manitoba, 26 years ago. He was then acting for the Dominion Government. The outbreak occurred in a piggery in Kildonan, where the owner had 350 hogs kept under the most filthy conditions imaginable. The food on which these animals subsisted was of the most horrible kind that can be imagined, even night-soil being included. The owner was unwilling to do anything, and the outbreak finally resulted in his losing all of his pigs but fifty. Ulceration of the bowels was the chief lesion. This was a very important question to Manitoba, and veterinarians cannot be too well informed thereon. He had much pleasure in moving a vote of thanks to Dr. McGilvray.

Dr. Martin seconded the motion and asked whether the Department advocated the use of serum.

Dr. McGilvray replied that the Department does not advise the use of serum. This is a matter of policy—the slaughter of hog cholera cases was decided upon as the best policy for Canada, as the outbreaks were not widespread and were confined to certain limits. Serum is used largely in the United States as a palliative and preventative measure.

Dr. I. B. Irwin of Stonewall reported an interesting case regarding a cow which developed at intervals a very peculiar chain of symptoms, indicating some peculiar condition affecting the central nervous system. During attacks the animal would walk around in a circle, and in the intervals between the attacks appeared to be perfectly normal. The cow made a recovery.

In the discussion which ensued, the members present suggested various possible causes. Dr. Coxe was of the opinion that it might have been a case of strychnine poisoning. Dr. Martin suggested that it might have been caused by indigestion, the symptoms developing from toxins produced by decomposing ingesta.

Dr. Leslie had seen a similar case in a horse. Poisoned wheat had been distributed round a field for poisoning gophers, and the horse had eaten some of this. This horse had spasms every hour for about twelve hours and finally died.

Dr. Lee had seen a similar case in a cow, but in this case it was strychnine poisoning. Spasms occurred about an hour apart and the cow finally recovered.

Dr. Torrance congratulated the essayist upon the way in

which he had presented the paper. He considered that as a literary production it was one of great excellence. He thought that one of the symptoms presented by the cow could hardly be explained on the grounds of strychnine poisoning, that was the circular movements of the cow. As a rule, strychnine poisoning did not produce this circular progression. He had much pleasure in moving a vote of thanks to Dr. Irwin, which was seconded by Dr. Coxe and carried.

Dr. Coxe introduced the question of the desirability of sewing accidental wounds. In his opinion a wound must be a bad one and in a bad place, or he would not sew it up. He finds that wounds do better if not stitched. Dr. Martin was of the opinion that the average wound would do as well unstitched as stitched, but there are many wounds that require stitching. The owner in most cases imagines the veterinarian is not doing his duty if he does not stitch the wound. If we don't do it someone else will, and in many cases the wound is stitched for the reason that the owner expects it to be done. Stitches retain secretions and in many cases do more harm than good.

Dr. Dunbar thought that wounds did as well without stitches, horizontal wounds especially are much better without stitches. Stitches however are often necessary, and owners are hard to persuade of the uselessness of stitches.

Dr. Coxe did not allow the owner to dictate to him how a case was to be treated. If he thought a wound was better without stitches it didn't matter what the owner said he wouldn't stitch it. He considered in most cases stitches were unnecessary.

Dr. Leslie related an experience in which he used hair pulled out of the mane in order to stitch a wound, to which he had been called and discovered that he had no suture material. The wound did remarkably well, but three weeks later the owner wanted to know why gray scars had marked out the place of each stitch!

Dr. McGilvray was of the opinion that the best time to stitch was not immediately after the infliction of the wound, but from 12 to 24 hours later.

The following resolutions were adopted:

"Whereas, The Veterinary Association of Manitoba has learned with regret of the resignation of Dr. Rutherford from the position of Veterinary Director General and Livestock Commissioner of Canada, be it

" Resolved, That this meeting place on record its appreciation of the great services that Dr. Rutherford has rendered to Canada in the departments over which he has presided and also to the veterinary profession.

" Copy of this resolution to be sent to him and also to the Minister of Agriculture."

" Resolved, That this Association tender a very hearty vote of thanks to the Mayor and City Council of the City of Brandon for their courtesy in allowing the use of the Council Chamber for this meeting."

Drs. Woods and Little were appointed auditors for the ensuing year. In the evening a very enjoyable banquet was held in the Hotel Cecil, Mayor Fleming presiding. A large number of members and friends were present and enjoyed a very pleasant evening, enlivened by vocal music and speeches. The meeting then adjourned.

F. TORRANCE,
Sec.-Treasurer and Registrar.

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

The first session of the annual meeting, scheduled for the 5th and 6th days of March, was called to order by President F. H. Schneider at 10 a. m. Tuesday morning, March 5, 1912, in the Veterinary School of the University of Pennsylvania, Pa.

At the close of the second day it was estimated that there was an average attendance of approximately 125 veterinarians. The sessions of each day were interrupted only for a short time at the noon-hour to partake of the luncheon provided for by the local committee of arrangements and the veterinarians in and about Philadelphia. The local committee of arrangements included members of the State Association: L. A. Klein (chairman), D. B. Fitzpatrick, W. J. Lentz, H. C. Campbell, H. D. Martien; members of the Keystone Veterinary Medical Association: Thos. Kelly (chairman), A. W. Ormiston, H. B. Cox, W. G. Parker, Cheston M. Hoskins.

The program proved itself evenly balanced and easy to follow according to schedule:

Tuesday, March 5, 1912.

Roll call; reading of minutes; President's address; report of delegates to Veterinary Medical Associations; new members proposed; Treasurer's report.

Report of Committee on Intelligence and Education; L. A. Klein, chairman.

"The Pennsylvania State Board of Veterinary Medical Examiners—Its Work and Needs," J. C. Helmer, Scranton.

Collection of dues.

"Operation for Roaring," with demonstration, J.W. Adams, Philadelphia.

"Milk Hygiene Regulations," C. J. Marshall, Philadelphia.

"An Unusual Cause of Udder Disease in Dairy Cows," L. A. Klein, Philadelphia.

Report of Committee on "Milk Inspection," J. C. Helmer, chairman, Scranton.

Discussion of report and papers on "Milk and Dairy Inspection."

Report of Committee on "Animal Husbandry," C. W. Gay, chairman, Philadelphia.

Report of Committee on "Army Legislation," W. H. Hoskins, chairman, Philadelphia.

Wednesday, March 6, 1912.

Report of Committee on "Sanitary Science and Police," C. J. Marshall, chairman, Philadelphia.

"Control of Contagious Diseases of Livestock," R. M. Staley, Harrisburg.

"Modern Diagnosis of Several Infectious Diseases," K. F. Meyer, Philadelphia.

"Some Experimental Work with Animals," H. H. Haver, State College.

Secretary's report, communications and correspondence; report of Board of Trustees, C. J. Marshall, chairman, Philadelphia; nomination and election of officers; balloting and introduction of new members.

"Paper-Bob Veal," P. A. Fish, Ithaca, N. Y.

"Lymph Glands of Animals and the Practical Method of Exposing Same for Examination," Thomas Castor, Philadelphia.

"Municipal Meat Inspection," T. E. Munce, Harrisburg.

"Culacaemia," S. E. Weber, Lancaster.

New business; unfinished business; seating of new officers; adjournment.

The nomination and election of officers resulted in the following choice: A. W. Wier (Greenville), President; E. W. Powell (Bryn Mawr), Thomas Kelly (Philadelphia), D. A. Gorman (Kittanning), Vice-Presidents; Francis Bridge (Philadelphia), Treasurer; E. H. Yunker (Philadelphia), Recording Secretary; John Reichel (Glenolden), Corresponding Secretary; Board of Censors: C. J. Marshall (Philadelphia), F. H. Schneider (Philadelphia), C. W. Springer (Uniontown), W. H. Hoskins (Philadelphia) and L. A. Klein (Philadelphia).

The following were elected to active membership: E. M. Curley (Pottsville), W. G. Kimball (Philadelphia), Ira G. Goble (Bath), Irvin S. Reifsnyder (Collegeville), H. H. Haver (State College), Geo. T. Van Buskirk (Willow Grove), Cheston M. Hoskins (Philadelphia), Harry F. Leighton (Glenolden, Pa.), N. C. Bennett (Laceyville), David McKibbin (Philadelphia), J. W. Mather (Berwick), Ernest C. Deubler (Media), D. N. Rivers (Lansdale), Harris S. Borneman (Morristown, Pa), G. K. Swank (East Mauch Chunk) and G. H. Welliver (Bloomsburg).

The place of meeting of the September semi-annual meeting was not decided upon.

JOHN REICHEL, Secretary.

KENTUCKY VETERINARY MEDICAL ASSOCIATION.

The above association held a meeting at the New Frankfort Hotel, Frankfort, Ky., February 28 and 29, 1912, and the following program was carried out: "Glanders and Mallein," Dr. S. F. Musselman; discussion by Dr. George W. Pedigo. "Serum Preventive Treatment for Catarrhal Fever in Horses," Dr. John T. Shannon. "Bacteriology of Infectious Abortion in Livestock," Prof. E. S. Good; practical discussion by Dr. E. R. Mumma. "Septicæmia," Dr. John C. Meyers; discussion by Dr. J. W. Jameson. "Eradication of Scabies in Kentucky," Dr. A. J. Payne, B.A.I. "Pernicious Anæmia," Dr. R. P. Moody. "Arecoline," Dr. O. S. Crissler; discussion opened by Dr. L. M.

Land. "Serum, Vaccines and Bacterines Used in Veterinary Practice," Dr. C. A. Miller; discussion by Dr. J. K. Ditto. "Eradication of Tuberculosis," Dr. F. T. Eisenman. "Azatoria," Dr. W. B. Robinson; discussion by Dr. John T. Haggard. "The New Corn Disease," Dr. M. A. Purdy; discussion by Dr. H. L. Casey.

A bill had been introduced in the Legislature which brought the veterinarians of the State to Frankfort on this day to work for its passage and to attend the State Association. There were numerous veterinarians in Frankfort, but the actual attendance at the meeting was not so large, in that the members were scattered between the meeting and the Capitol. The following graduate men placed their applications and were admitted to membership: Dr. John W. Rollins, Lexington; Dr. C. D. Seay, Frankfort; Dr. C. H. Mainhart, Richmond; Dr. C. Cann, 1046 East Main street, Louisville; Dr. H. F. Cook, Harrodsburg; Dr. James H. O'Donnell, Frankfort, and Dr. G. W. Brashear, Winchester.

The Army Veterinary bill was brought up, but owing to the press of time and other business it was put in the hands of the Executive Committee to draft resolutions and place a copy in the hands of the Representatives and Congressmen from this State.

The question of interest to the meeting was the veterinary bill which restricts the practice of veterinary medicine and is now before the Legislature. The association desires it to pass. It provides for a board of examiners and makes it necessary for every graduate in the State to pass the examination in order to secure a State license to practice in Kentucky. The non-graduates may receive a license if they have been engaged for the past five years in the practice of veterinary medicine, upon application to the board of examiners, with two affidavits from their county certifying that the applicant is of good moral character, etc.

This bill is not radical, but was written on a very broad scope, that it might pass beyond a doubt, and at some later date be amended. A banquet was held on the evening of the 28th in the private dining room of the New Frankfort Hotel, where about forty were seated around the table. The following members of the Legislature, Messrs. Douglass, Nichols, Dave Halley; Senators Berkshire, Mark Ryan, Jack Knight, Thurman, Mahin, Palmer, and Mr. Grubbe, representative of the LaFayette Pharmaceutical Company, attended, and gave encouraging statements, pledging themselves to do everything possible to make the bill regulating the veterinary practice in Kentucky a law.

At the close of the meeting it was decided to keep one or two veterinarians at Frankfort for the remainder of the present session of the Legislature. In the near future we hope to report the passage of this bill.

ROBERT GRAHAM, Secretary.

NORTH DAKOTA VETERINARY ASSOCIATION.

The tenth annual meeting of the above association convened at the Veterinary Building of the Agricultural College, Fargo, at 10 a. m., January 16, 1912.

The morning session was occupied in listening to committee reports. President D. Fisher in the chair.

The afternoon session was devoted to papers and discussions, Dr. W. F. Crewe, State Veterinarian, leading with his subject as "A Few Pointers on Inspection of Livestock for Interstate Shipment." Dr. E. Schneider followed with "Several Case Reports." "The Veterinarian's Interest in Higher Education," Dr. E. D. Harris of the Agricultural College faculty. "A Single Surgical Operation for Teat Fistulae in the Cows," Dr. F. H. Farmer. "Case Reports," Dr. J. H. Robinson. "Immunity and Immunity Reactions," Dr. L. Van Es, Dean of the Veterinary Department of the North Dakota Agricultural College. "Arecoline," Dr. D. Fisher. "Case Reports," Dr. B. C. Taylor. An informal report on "Some Non-Anaemic Field Cases of Swamp Fever," Dr. A. F. Schalk of the Agricultural College. "Equine Tuberculosis," Dr. R. E. Shigley.

Eleven new members were elected at this meeting.

On Tuesday evening, January 16, the association enjoyed a sumptuous banquet at the commercial club rooms. Following the banquet, the president opened the "Question Box," and while blowing fragrant rings of Havana cigar smoke, many hard knots of our daily practice were successfully "cracked." On Wednesday forenoon occurred the annual election of officers with the following result:

President, E. J. Walsh, Minot.
Vice-President, C. H. Martin, Valley City.
Secretary, C. H. Babcock, New Rockford.
Treasurer, B. C. Taylor, Hillsboro.

It was decided to hold the next meeting some time in midsummer of 1912, preferably during the State Fair at Fargo.

It is hoped by the Institute Committee that some noted member of our profession can be secured for the institute feature of the next meeting.

C. H. BABCOCK, Secretary.

COMMITTEE ON 1913 MEETING, A. V. M. A.

The Committee on the 1913 meeting of the A. V. M. A. met at Reisenweber's, 58th street and the Circle, New York City, at 7.30 p. m., January 17, 1912. Members present: Winchester, Hoskins, Gill, Berns, Ackerman and Ellis. Absent: A. Liautard, W. L. Williams, James L. Robertson, W. Reid Blair and W. J. Coates.

Acting Chairman Dr. J. F. Winchester presided. Communication from Dr. W. L. Williams was read. Secretary Hoskins went over the plans that had been outlined at the previous meeting of the committee.

The need of dividing up into a series of committees was considered, and in order to promote the work in this direction it was decided to ask President Brenton to make the following additional appointments: Drs. C. E. Clayton, D. W. Cochran, T. E. Smith, R. H. Kingston, J. B. Hopper, Thomas Bland, W. G. Hollingworth and J. E. Ryder.

It was decided to recommend that no surgical clinics be held in conjunction with the fiftieth anniversary; that the subjects considered be major ones of general interest and importance to the profession as a whole; that all papers be confined to twenty minutes' reading, with only an added ten minutes by unanimous consent; that the morning sessions of the convention be given up to papers on general subjects and reports of standing and special committees; that the afternoons be given up to sectional work and that the vice-presidents be charged with looking after these sections and preside at the same to facilitate the work of the meeting; that each morning session be opened by a twenty-minute address on some special subject and by some prominent member of the veterinary or medical profession, or from the field of scientific agriculture, State sanitary control work and allied subjects; and that the banquet be made the opportunity of

inviting some five prominent speakers in our own country or Canada to address us on some specially selected topic allied with our work.

The following tentative committees were agreed upon, subject to revision when the President decides for or against the requested additional appointments:

Finance Committee—George H. Berns (chairman), D. W. Cochran, W. J. Coates, H. D. Gill, E. B. Ackerman, W. G. Hollingworth, T. E. Smith.

Hall and Headquarters—H. D. Gill (chairman), J. E. Ryder, C. E. Clayton, James L. Robertson and W. Horace Hoskins.

Entertainment and Banquet—Robert W. Ellis (chairman), W. Reid Blair, J. B. Hopper, C. E. Clayton, R. H. Kingston, J. E. Ryder, W. L. Williams and W. Horace Hoskins.

Invitations and Publicity—J. F. Winchester (chairman), W. Reid Blair, Robert W. Ellis, W. Horace Hoskins and William Dougherty.

Associate Committee to Ladies' Auxiliary—H. D. Gill (chairman), W. B. Ackerman and T. E. Smith.

Invited guests considered to speak at banquet were as follows: Prof. A. Liautard, Paris, France, A. V. M. A.; Senator W. A. Edwards, Canada; Ex-Governor W. D. Hoard, Wisconsin; Health Commissioner Evans, Chicago, and Secretary of Agriculture James Wilson. Subject to change and final decision.

W. HORACE HOSKINS, Secretary.

YORK COUNTY VETERINARY MEDICAL SOCIETY.

The above society held its annual meeting in the National Hotel parlors, York, on March 12, 1912. It proved a very enjoyable and profitable session.

Enthusiastic and interested discussions were had on tetanus and the use of anti-tetanic serums, azoturia, polybacterins and their use in open joints and fistulous withers, contagious abortion in animals and its treatment, hog cholera and its treatment. Election of officers resulted as follows: President, W. L. Herbert, York; first vice-president, F. M. Kain, York; second vice-president, J. D. Smith, Dallastown; secretary, E. S. Bausticker, York; treasurer, Charles Lenhart, York.

E. S. BAUSTICKER, Secretary.

NEWS AND ITEMS.

Dr. A. F. NELSON, secretary of the Indiana Veterinary Medical Association, states that their sixteenth annual meeting at Indianapolis in January was the greatest in every respect that the association has ever held. Secretary Nelson's report of this great meeting is published on page 110 of this issue and makes good and instructive reading. They are looking forward with a hearty welcome in their hearts to the coming of the A. V. M. A. in August.

WE have received the published proceedings of the Fifteenth Annual Meeting of the United States Live Stock Sanitary Association, held at Chicago in December last (described by Secretary Ferguson as " by far the largest, best attended and most interesting of all meetings to date "), but aside from commenting for a second time on its value to any one interested in live stock in *any* capacity, whom we would urge to procure a copy, we will not discuss it, as Professor Liautard will no doubt have something to say about it in our next issue.

A SPLENDED meeting of the Pennsylvania State Veterinary Medical Association was held at the veterinary school, Philadelphia, March 5 and 6, as reported by Secretary Reichel on page 123, this issue. The papers were presented in " Leonard Pearson Hall," and a very tasty buffet luncheon was served in the " Forge Room " adjoining at noon each day. A very interesting lecture on the Williams' Operation for Roaring was given by Professor Adams in the " Amphitheatre " after luncheon on the first day. Professor Adams also demonstrated the operation, with modifications by himself, on the larynx of a horse that had been destroyed; the same having been a victim of the malady.

ON February 22, 1912, the Gamma Chapter of the Alpha Psi Fraternity held their annual banquet at the Lexington Hotel in Chicago. The occasion turned out to be the largest gathering of Alpha Psi men that ever assembled; about eighty being present, the number being made up of acting, graduate and honorary members, and four invited guests. The latter were: Drs. Joseph Hughes and A. H. Baker, of the Faculty of the Chicago Veterinary College; Dr. A. M. Jansen, of Columbus, Ohio, treasurer of the National Council, and Dr. H. Preston Hoskins, of St. Paul, Minn., secretary of the National Council. Mr. Ira Dodson, of the senior class, acted as toastmaster in an able manner. The praise received by the officers and committee for the success of the banquet was well earned.

VETERINARY MEDICAL ASSOCIATION MEETINGS.

In the accompanying table the data given is reported by many Secretaries as being of great value to their Associations, and it is to be regretted that some neglect to inform us of the dates and places of their meetings.

Secretaries are earnestly requested to see that their organizations are properly included in the following list :

Name of Organization.	Date of Next Meeting.	Place of Meeting.	Name and Address Secretary
Alumni Ass'n, N. Y.-A. V. C.....	.....	141 W. 54th St.	J. F. Carey, East Orange. N. J
American V. M. Ass'n.....	Week Aug. 26,'12	Indianapolis..	C. J. Marshall, Philadelphia.
Arkansas Veterinary Ass'n.....	.....	.....	J. B. Arthur, Russellville.
Ass'n Médécale Veterinare Française "Laval".....	1st and 3d Thur. of each month	Lec. Room, Laval Un'y, Mon.	J. P. A. Houde, Montreal.
B. A. I. Vet. In. A., Chicago.....	2d Fri. ea. mo...	Chicago.....	H. A. Smith, Chicago, Ill.
B. A. I. Vet. In. A., So. Omaha ..	3d Mon. ea. mo.	S. Omaha, Neb	E. J. Jackson, So. Omaha.
California State V. M. Ass'n.....	.....	San Francisco.	J. J. Hogarty, Oakland.
Central Canada V. Ass'n.....	.....	Ottawa	A. E. James, Ottawa.
Central N. Y. Vet. Med. Ass'n....	June and Nov...	Syracuse	W. B. Switzer, Oswego.
Chicago Veterinary Society.....	2d Tues. ea. mo	Chicago	D. M. Campbell Chicago.
Colorado State V. M. Ass'n.....	June, 1912	Ft. Collins....	B. F. Kaupp, Ft. Collins.
Connecticut V. M. Ass'n.....	Feb. 6, 1912.....	Hartford	B. K. Dow, Willimantic.
Delaware State Vet. Society.....	Jan. Apl. Jy. Oct.	Wilmington ..	A. S. Houchin, Newark, Del.
Essex Co. (N. J.) V. M. A.....	3d Mon. ea. mo.	Newark, N. J.	J. F. Carey, East Orange, N.J.
Genesee Valley V. M. Ass'n.....	.....	.....	J. H. Taylor, Henrietta.
Georgia State V. M. A.....	Dec. 21-22, 1911.	Atlanta.....	P. F. Bahnsen, Americus.
V. M. A. of Geo. Wash. Un'y.....	2d Sat. ea. mo..	Wash., D. C..	A. T. Ayers.
Hamilton Co. (Ohio) V. A.....	.....	.....	Louis P. Cook, Cincinnati.
Idaho Ass'n of Vet. Graduates....	Oct. 10-12, 1911..	Boise.....	G. E. Noble, Boise.
Illinois State V. M. Ass'n.....	July, 1912... ...	Springfield ...	L. A. Merillat, Chicago.
Indiana Veterinary Association...	Jan. 15-16, 1913..	Indianapolis ..	A. F. Nelson, Lebanon.
Iowa Veterinary Ass'n.....	.....	.....	C. H. Stange, Ames.
Kansas State V. M. Ass'n...	January, 1913...	Topeka.	J. H. Burt, Manhattan.
Kentucky V. M. Ass'n.....	Oct. & Feb. ea. yr.	Lexington	Robert Graham, Lexington.
Keystone V. M. Ass'n.....	.....	.....	E. H. Yunker, Phila.
Louisiana State V. M. Ass'n.....	.....	.....	E. P. Flower, Baton Rouge.
Maine Vet. Med. Ass'n	January, 1912...	Portland.....	C. W. Watson, Brunswick.
Maryland State Vet. Society.....	.....	Baltimore.....	H. H. Counselman, Sec'y.
Massachusetts Vet. Ass'n.....	4th Wed. ea. mo.	Young's Bost'n	J. H. Seale, Salem.
Michigan State V. M. Ass'n.....	Feb. 6-8, 1912...	Mich. Agr. Col.	Judson Black, Richmond.
Minnesota State V. M. Ass'n.....	Jan. 10-12, 1912..	St. Paul.....	G. Ed. Leech, Winona.
Mississippi State V. M. Ass'n....	.....	.....	Wm. P. Ferguson, Grenada.
Missouri Valley V. Ass'n.....	.....	.....	Hal. C. Simpson, Denison, Ia.
Missouri Vet. Med. Ass'n	.....	.....	D. L. Luckey,
Montana State V. M. A.....	Jan. 29-30, 1912.	Bozeman	A. D. Knowles, Livingston.
Nebraska V. M. Ass'n.....	January, 1912....	Lincoln.....	W. H. Tuck, Weeping Water.
New York S. V. M. Soc'y.....	September, 1912.	Utica.....	H. J. Milks, Ithaca, N. Y.
North Carolina V. M. Ass'n.....	June 1912	Raleigh.....	M. J. Ragland, Salisbury.
North Dakota V. M. Ass'n.....	Fair Week, 1912.	Fargo.....	C. H. Babcock, New Rockford.
North-Western Ohio V. M. A.....	Feb. and Nov...	Lima.	A. J. Kline, Wauseon.
Ohio State V. M. Ass'n.....	.....	.....	Reuben Hilty, Toledo.
Ohio Soc. of Comparative Med..	Annually	Up'r Sandusky	F. F. Sheets, Van Wert, Ohio.
Ohio Valley Vet. Med. Ass'n.....	.....	.....	J. C. Howard, Sullivan.
Oklahoma V. M. Ass'n.....	Dec. 14-15, 1911.	Okla. City....	C. E. Steel, Oklahoma City.
Ontario Vet. Ass'n.....	April, 1912.....	Toronto	C. H. Sweetapple, Toronto.
Pennsylvania State V. M. A.....	September, 1912.	.....	John Reichel, Glenolden.
Philippine V. M. A.....	Call of President	Manila.....	David C. Kretzer, Manila.
Portland Vet. Med. Ass'n.....	4th Tues. ea. mo.	Portland, Ore.	Sam. B. Foster, Portland, Ore
Province of Quebec V. M. A.....	.....	Mon. and Que.	Gustave Boyer, Rigaud, P. Q.
Rhode Island V. M. Ass'n.....	Jan. and June..	Providence ...	J. S. Pollard, Providence
South Carolina Ass'n of Veter'ns	.....	.....	Clarence E. Smith, Greenville
So. Illinois V. M. and Surg. A....	Jan. 2-3, 1912...	Centralia	F. Hockman, Louisville.
St. Louis Soc. of Vet. Inspectors.	1st Wed. fol. the 2d Sun. ea. mo.	St. Louis.....	Wm. T. Conway, St. Louis, Mo.
Schuylkill Valley V. M. A.....	Dec. 20, 1911....	Reading	W. G. Huyett, Wernersville.
Soc. Vet. Alumni Univ. Penn.....	.....	Philadelphia..	B. T. Woodward, Wash'n, D.C
South Dakota V. M. A.....	2d Tues. July '12	Aberdeen.	S. W. Allen, Watertown.
Southern Auxiliary of California State V. M. Ass'n.....	Jan. Apl. Jy. Oct.	Los Angeles..	J. A. Dell, Los Angeles.
So. St. Joseph Ass'n of Vet. Insp..	4th Tues. ea. mo.	407 Ill. Ave....	H. R. Collins, So. St. Joseph.
Tennessee Vet. Med. Ass'n.....	.....	.....	A. C. Topmiller, Murfreesboro
Texas V. M. Ass'n.....	Mar. 18-19, 1912..	Fort Worth...	R. P. Marsteller, College Sta
Twin City V. M. Ass'n.....	2d Thu. ea. mo .	St. P.-Minneap	S. H. Ward, St. Paul, Minn.
Utah Vet. Med. Ass'n.....	Mar., 1912	Logan	A. J. Webb, Layton.
Vermont Vet. Med. Ass'n	.....	....	G. T. Stevenson, Burlington.
Veterinary Ass'n of Alberta.....	.....	.....	C. H. H. Sweetapple, For. Saskatchewan, Alta., Can.
Vet. Ass'n Dist. of Columbia.....	3d Wed. ea. mo..	514—9th St., N. W.....	M. Page Smith, Wash., D.C
Vet. Ass'n of Manitoba.....	Midsummer Fair	Winnipeg.....	F. Torrance, Winnipeg.
Vet. Med. Ass'n of N. J.....	July, 1912.....	Jersey City ...	E. L. Loblein, New Brunswick.
V. M. Ass'n, New York City.....	1st Wed. ea. mo.	141 W. 54th St.	R. S. MacKellar, N. Y. City.
Veterinary Practitioners' Club....	Monthly.....	Jersey City ...	A. F. Mount, Jersey City.
Virginia State V. M. Ass'n	.....	.....	W. G. Chrisman, Raleigh.
Washington State Col. V. M. A ..	1st & 3d Fri. Eve.	Pullman.....	R. J. Donohue, Pullman.
Washington State V. M. A.....	Jan. 9-10, 1913...	Wenatchee....	Carl Cozier, Bellingham
Western Penn. V. M. Ass'n.....	3d Thurs. ea. mo.	Pittsburgh....	Benjamin Gunner, Sewickley.
Wisconsin Soc. Vet. Grad	July, 1912.....	Janesville.....	J. P. West, Madison.
York Co. (Pa.) V. M. A.....	June 4, 1912.....	York.....	E. S. Baustícker, York, Pa.

NEWS AND ITEMS.

Dr. A. F. NELSON, secretary of the Indiana Veterinary Medical Association, states that their sixteenth annual meeting at Indianapolis in January was the greatest in every respect that the association has ever held. Secretary Nelson's report of this great meeting is published on page 110 of this issue and makes good and instructive reading. They are looking forward with a hearty welcome in their hearts to the coming of the A. V. M. A. in August.

WE have received the published proceedings of the Fifteenth Annual Meeting of the United States Live Stock Sanitary Association, held at Chicago in December last (described by Secretary Ferguson as " by far the largest, best attended and most interesting of all meetings to date "), but aside from commenting for a second time on its value to any one interested in live stock in *any* capacity, whom we would urge to procure a copy, we will not discuss it, as Professor Liautard will no doubt have something to say about it in our next issue.

A SPLENDED meeting of the Pennsylvania State Veterinary Medical Association was held at the veterinary school, Philadelphia, March 5 and 6, as reported by Secretary Reichel on page 123, this issue. The papers were presented in " Leonard Pearson Hall," and a very tasty buffet luncheon was served in the " Forge Room " adjoining at noon each day. A very interesting lecture on the Williams' Operation for Roaring was given by Professor Adams in the " Amphitheatre " after luncheon on the first day. Professor Adams also demonstrated the operation, with modifications by himself, on the larynx of a horse that had been destroyed; the same having been a victim of the malady.

ON February 22, 1912, the Gamma Chapter of the Alpha Psi Fraternity held their annual banquet at the Lexington Hotel in Chicago. The occasion turned out to be the largest gathering of Alpha Psi men that ever assembled; about eighty being present, the number being made up of acting, graduate and honorary members, and four invited guests. The latter were: Drs. Joseph Hughes and A. H. Baker, of the Faculty of the Chicago Veterinary College; Dr. A. M. Jansen, of Columbus, Ohio, treasurer of the National Council, and Dr. H. Preston Hoskins, of St. Paul, Minn., secretary of the National Council. Mr. Ira Dodson, of the senior class, acted as toastmaster in an able manner. The praise received by the officers and committee for the success of the banquet was well earned.

VETERINARY MEDICAL ASSOCIATION MEETINGS.

In the accompanying table the data given is reported by many Secretaries as being of great value to their Associations, and it is to be regretted that some neglect to inform us of the dates and places of their meetings.

Secretaries are earnestly requested to see that their organizations are properly included in the following list :

Name of Organization.	Date of Next Meeting.	Place of Meeting.	Name and Address Secretary
Alumni Ass'n, N. Y.-A. V. C.....	.....	141 W. 54th St.	J. F. Carey, East Orange. N. J
American V. M. Ass'n.....	Week Aug. 26,'12	Indianapolis..	C. J. Marshall, Philadelphia.
Arkansas Veterinary Ass'n.....	.....	.....	J. B. Arthur, Russellville.
Ass'n Médécale Veterinare Française "Laval".....	1st and 3d Thur. of each month	Lec. Room, Laval Un'y, Mon.	J. P. A. Houde, Montreal.
B. A. I. Vet. In. A., Chicago.....	2d Fri. ea. mo...	Chicago.....	H. A. Smith, Chicago, Ill.
B. A. I. Vet. In. A., So. Omaha ..	3d Mon. ea. mo.	S. Omaha, Neb	E. J. Jackson, So. Omaha.
California State V. M. Ass'n.....	.....	San Francisco.	J. J. Hogarty, Oakland.
Central Canada V. Ass'n.....	.....	Ottawa	A. E. James, Ottawa.
Central N. Y. Vet. Med. Ass'n....	June and Nov...	Syracuse	W. B. Switzer, Oswego.
Chicago Veterinary Society.....	2d Tues. ea. mo	Chicago	D. M. Campbell Chicago.
Colorado State V. M. Ass'n.....	June, 1912	Ft. Collins....	B. F. Kaupp, Ft. Collins.
Connecticut V. M. Ass'n.....	Feb. 6, 1912.....	Hartford	B. K. Dow, Willimantic.
Delaware State Vet. Society.....	Jan. Apl. Jy. Oct.	Wilmington ..	A. S. Houchin, Newark, Del.
Essex Co. (N. J.) V. M. A.....	3d Mon. ea. mo.	Newark, N. J.	J. F. Carey, East Orange, N. J.
Genesee Valley V. M. Ass'n.....	.....	.....	J. H. Taylor, Henrietta.
Georgia State V. M. A.....	Dec. 21-22, 1911.	Atlanta.....	P. F. Bahnsen, Americus.
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Minnesota State V. M. Ass'n.....	Jan. 10-12, 1912..	St. Paul.....	G. Ed. Leech, Winona.
Mississippi State V. M. Ass'n....	.....	.....	Wm. P. Ferguson, Grenada.
Missouri Valley V. Ass'n.....	.....	.....	Hal. C. Simpson, Denison, Ia.
Missouri Vet. Med. Ass'n	.....	.....	D. L. Luckey,
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Ohio Soc. of Comparative Med..	Annually	Up'r Sandusky	F. F. Sheets, Van Wert, Ohio.
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Province of Quebec V. M. A.....	.....	Mon. and Que.	Gustave Boyer, Rigaud, P. Q.
Rhode Island V. M. Ass'n.....	Jan. and June..	Providence ...	J. S. Pollard, Providence
South Carolina Ass'n of Veter'ns	.....	.....	Clarence E. Smith, Greenville
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Southern Auxiliary of California State V. M. Ass'n.....	Jan. Apl. Jy. Oct.	Los Angeles..	J. A. Dell, Los Angeles.
So. St. Joseph Ass'n of Vet. Insp..	4th Tues. ea. mo.	407 Ill. Ave....	H. R. Collins, So. St. Joseph.
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Twin City V. M. Ass'n.....	2d Thu. ea. mo .	St. P.-Minneap	S. H. Ward, St. Paul, Minn.
Utah Vet. Med. Ass'n.....	Mar., 1912	Logan	A. J. Webb, Layton.
Vermont Vet. Med. Ass'n	.....	....	G. T. Stevenson, Burlington.
Veterinary Ass'n of Alberta.....	.....	.....	C. H. H. Sweetapple, For. Saskatchewan, Alta., Can.
Vet. Ass'n Dist. of Columbia.....	3d Wed. ea. mo..	514—9th St., N. W.....	M. Page Smith, Wash:, D.C
Vet. Ass'n of Manitoba.....	Midsummer Fair	Winnipeg.....	F. Torrance, Winnipeg.
Vet. Med. Ass'n of N. J.....	July, 1912.....	Jersey City...	E. L. Loblein, New Brunswick.
V. M. Ass'n, New York City.....	1st Wed. ea. mo.	141 W. 54th St.	R. S. MacKellar, N. Y. City.
Veterinary Practitioners' Club....	Monthly.....	Jersey City ...	A. F. Mount, Jersey City.
Virginia State V. M. Ass'n	.....	.....	W. G. Chrisman, Raleigh.
Washington State Col. V. M. A ..	1st & 3d Fri. Eve.	Pullman.....	R. J. Donohue, Pullman.
Washington State V. M. A.....	Jan. 9-10, 1913...	Wenatchee....	Carl Cozier, Bellingham
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York Co. (Pa.) V. M. A.....	June 4, 1912.....	York.....	E. S. Bausticker, York, Pa.

PUBLISHERS' DEPARTMENT.

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Rejected manuscripts will not be returned unless postage is forwarded.

Subscribers are earnestly requested to notify the Business Manager immediately upon changing their address. **Make all checks or P. O. orders payable to American Veterinary Review.**

THE MAX WOCHER & SON CO.'s latest set of instruments for roaring are those used by the author of "The Cause and Relief of Dyspnoea, etc.," on page 57 of this issue of the REVIEW. They are also fully illustrated in their full-page advertisement on page 11 (adv. dept.), this issue.

This is the season of the year, as the roads get better, that teamsters begin to smooth up their horses' legs after the strains of winter hauling. Every veterinarian knows the value of iodine, and all *should* know of *Iodine-Petrogen*, which is iodine incorporated in a proper vehicle for application, by JOHN WYETH & BROTHER, INC. See their advertisement on page 22 and write them for literature, mentioning the REVIEW.

The PASTEUR LABORATORIES of AMERICA, who are the sole concessionaires of the original and only genuine Pasteur's Anthrax Vaccine, discovered by Profs. Pasteur, Chamberland and Roux, also have a Polyvalent Calf Dysentery Serum, which has been used successfully by Profs. Alexander and Hadley of the Wisconsin Agricultural College; also by Dr. H. L. Sommer, of Philadelphia, Pa. Latest advices tell us that they have just received a shipment of the germ-free extract referred to by Sommer at the foot of page 631, February number, AMERICAN VETERINARY REVIEW. This house, whose advertisement will be found on page 26 (adv. dept.), supply their products to the veterinary profession exclusively.